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THE UNIVERSITY OF ALBERTA

THE COGNITIVE ANCHORING OF SELECTED RUSSIAN ADVERBIALS

BY

KARUNA DEO

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF

DOCTOR IN PHILOSOPHY

IN

RUSSIAN LINGUISTICS

DEPARTMENT OF SLAVIC AND EAST EUROPEAN STUDIES

EDMONTON, ALBERTA

SPRING 1989

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submitted by KARUNA DEO

in partial fulfilment of the requirements for the degree of Doctor of Philosophy in RUSSIAN LINGUISTICS.

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To my parents.

ABSTRACT

The objective of the present study is the revelation of the close ties between adverbial semantics, function and various aspects of human experience. We express the contention on the basis of our study of Russian and English adverbs that if one is to define acceptability, appropriateness, and optionality/obligatoriness of adverbs in contexts, pragmatic knowledge of the world and man's interaction with his surroundings need to be taken into consideration. A claim is made that adverbial semantics and modification are anchored in general as well as more specific knowledge about the world and the cognitive processes involved in perceiving this world. This claim is made on the basis of two major observations; a) adverbs have belief spheres associated with them which define presuppositions in their semantics and their contextual requirements; and b) adverbs involve Idealized Cognitive Models (ICMs) of various elements associated with them (cf. Lakoff 1982). Depending on the kind of information underlying the ICMs, we classify the latter into two distinct groups: **socio-cultural ICMs**

-- formed on the basis of the long term knowledge about the world and a person's socio-cultural background; and **situational ICMs** -- which are formed as a result of a person's exposure to more immediate states or events. It is illustrated that the use of an adverb by the speaker and its interpretation by the addressee is made on the basis of the conceptual structure of the adverb, its ICMs and ICMs of the other elemets in the sentence. It is noted that epistemic modal adverbs mainly rely on situational ICMs, evaluative manner adverbs on socio-cultural ICMs, and attitudinal adverbs can be associated with both kinds of ICMs. As a result, the pragmatic study of adverbs is shown to obligatorily involve the consideration of a vast amount of latent information that has a decisive role to play in the semantics and use of the category in natural discourse. It is demonstrated that in order to fully comprehend the function and behaviour of adverbs in discourse it is crucial that we have the above mentioned information at our disposal.

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I. INTRODUCTION

This study addresses itself to the question of those aspects of the semantic reading of adverbs which are not necessarily determined by transformational, generative semantic, or any other formal grammar.

The semantic interpretation of a sentence containing an adverb is influenced by the set of information of various kinds about different aspects of meaning. We assume that whether or not the collection of these disparate elements actually forms a "sensical" (as opposed to nonsensical) meaning should be determined by a grammar. Some of these aspects are very well handled in various grammars. For example, the semantic appropriateness of a sentence is, to some extent, taken care of in generative grammar by selectional restrictions which filter out sentences with selectional violations (Chomsky : 1965) . The illocutionary force of a sentence is another aspect of semantic interpretation which is very elegantly tackled by J. R. Ross in his performative theory. In this theory whether a sentence is declarative, imperative, or interrogative is represented explicitly in the deep functional structure (Ross :

1970).

In fact if we survey most grammatical models that have dealt with the question of semantic representation we cannot but notice a general belief that all facets of semantic interpretation can be represented structurally. This belief also includes the position that it is the deep structure that determines their representation. For example, the higher proverbs of Lakoff, the case frames in Fillmore (1982 b), and Katz and Postal's hypothesis that all semantic information is represented in underlying structures (1964) all reflect this general belief.

But not all semantic elements lend themselves to representation in trees or functional structures. Quantifiers, coreference relations among noun phrases, and focus and topic relations between the constituents of a sentence, are but a few of them. R. Jackendoff attempts to handle these within the semantic interpretive framework by devising three semantic heirarchies in his semantic component (1972 : 4). However, it will be shown in the later part of this work that the semantic wellformedness of a sentence depends not only on the summarized influence of all the above elements, but also on the effect of those elements which do not make up part of the grammar. Factors that come under the domain of pragmatics, i.e. knowledge of the real world, and various cognitive processes heavily influence the use of every word and the final semantic reading of a sentence.

In the present work we take the position that the semantic appropriateness of a sentence and consequently the appropriateness of the lexical items in it need to be explained at two different levels. One level pertains to knowledge of the language, and the other to long term knowledge about the world. The syntactic and generative semantic theories referred to above can explain the appropriateness of a lexical item only at the first level but fail to incorporate the second. As a result, what is considered grammatically unacceptable by these theories can sometimes prove to be perfectly sensible in a live discourse where a real world situation is the criterion for distinguishing sensical from nonsensical.

In our investigation we intend to address that level of adverbial semantics where linguistic knowledge leaves off and extralinguistic knowledge takes over. We shall concern ourselves with two issues : the first comprises the cognitive conditions that determine the semantics of adverbs from the speaker's point of view and their interpretation on part of the hearer; and the second major concern relates to the pragmatic variables that influence the appropriateness/inappropriateness of adverbs in a sentence, where any sentence is necessarily viewed as an integral part of a larger communicative act. On the basis of our Russian data we shall attempt to investigate whether the behaviour and modificatory function of adverbs can be accounted for by some pragmatic and cognitive factors.

The working data for this work is drawn from Russian and consists of two kinds of adverbs : sentence modifiers and evaluative manner adverbs. Among sentence modifiers the examples are restricted to attitudinal and epistemic modal adverbs. Such adverbs as *k sčast'ju* (fortunately), *k moemu udivleniju* (surprisingly), *interesno* (interestingly), *ironiej sud'by* (ironically), *k moemu izumleniju* (amazingly), *stranno* (strangely) fall into the class of attitudinal adverbs since they express a person's subjective attitude toward the main proposition. Epistemic modal adverbs express a speaker's subjective evaluation of the probability of the event in the main clause or his assurance/doubt about it. Epistemic modals include such adverbs as *očevidno* (evidently, obviously), *po-vidimomu* (apparently), *naverno* (probably), *konečno* (certainly), *bez vsjakogo somnenija* (undoubtedly) and so on. Apart from these two kinds of sentence modifiers the data include evaluative manner adverbs. Among the members of this large class, the emphasis is laid on such adverbs as *zakonno* (legally), *nezakonno* (illegally), *mstitel'no* (vengefully), *sadističeski* (sadistically), which refer to certain preconceived expectations about their semantic spheres. A comment must be made about the generality of our observations. Our contention is that since adverbs in this work are studied in terms of cognitive processes and pragmatic conditions relevant to linguistic communication in general, the claims made about Russian adverbs may hold true for adverbs in other languages also.

Since Russian adverbs are investigated with respect to some very recent discourse and cognitive theories applied to the English language it was inevitable that a large portion of this dissertation be devoted to works dealing with English. However, in every chapter we have attempted to apply the discussed theory to the Russian adverbs of our concern, thus drawing parallels and contrasts between two languages.

The material in this work is distributed over five chapters. The first chapter outlines various semantic taxonomies of Russian and English adverbs. Among the criteria used in these classifications, especially in English, one sees a gradual transition toward encompassing discourse factors. Thus the first few taxonomies have, at their basis, only the lexical meaning of adverbs, which is then over time slowly replaced by the criterion of syntactic constituents of the sentence as the modified head of the adverb. From a syntactic element as the referent of adverbial modification, the focus shifts to semantic elements in a verb to which an adverb makes reference. This gradual evolution toward pragmatics becomes more and more evident in the discourse taxonomy of English adverbs in which they are studied in relation to context.

In contrast with English, the survey of Russian works reveals a more conservative approach taken toward the study of the category of adverbials. We notice a lack of homogeneous criteria in the classifications of Russian adverbs. Also, a certain degree of overlap between the categories of adverbs and modals is observed. As a result, the survey includes a fairly detailed discussion of the

Russian notion of modality.

The second chapter introduces two formal approaches adopted to account for the derivation of adverbs within generative and generative semantic frameworks. The generative approach proposes the use of adjectival paraphrases in the deep structure to derive corresponding adverbs. However, the major shortcoming of this kind of derivation is its inability to handle those adverbs which do not have adjectival paraphrases. The semantic generative grammar treats adverbs as a deep structure category and introduces the auxiliary position as their deep structure position for all adverbs. This theory places a considerable amount of emphasis on the association between the semantic interpretation of an adverb and its position in a sentence. Both approaches discussed in this chapter have been originally worked out for English adverbs. However, we apply them here to those Russian adverbs outlined earlier.

The third chapter of this work gives the highlights of an analysis that distinguishes among adverbs, predicate modifiers and modal operators, and employs first order logic to prove their different modificational scopes. The review of logical analyses of adverbs brings to our attention fine distinctions in the functional domains and syntactic behaviour of the two kinds of adverbs. However, the inadequacy of such analyses resides in their use of an extremely artificial context in which adverbial semantics is investigated. This makes the logical approach an inadequate device for explaining adverbial behaviour in natural discourse.

The fourth chapter is devoted to the examination of the performative analysis of adverbs. First, we review a work in which attitudinal adverbs are shown to have their own illocutionary force and an attempt is made to represent this force by a performative verb. We then extend this method to Russian adverbs in order to study their behaviour in the setting of some complex sentences. The purpose of this study is to reveal certain pragmatic facets of adverbial semantics and modification which cannot be handled within the performative framework, thus illustrating the need to incorporate cognitive factors in accounting for the semantics of adverbial modification in live discourse.

The task of introducing cognitive elements in the study of adverbials is undertaken in the fifth chapter within two cognitive theories; R. Schank's theory of belief structures (1974) and G. Lakoff's theory of Idealized Cognitive Models (ICMs) (1982). Both address the question of those semantic elements of a lexical item which are embedded in world knowledge and cognitive mechanisms. After explaining the basic tenets of these two theories we proceed to apply them to Russian adverbs in order to suggest possible pragmatic and cognitive factors influencing adverbial semantics, their modificational functions and practical interpretation. We believe that only this kind of knowledge must underlie the wellformedness conditions on adverbs when they comprise part of a communicative act. The theory of belief structures is employed to illustrate that adverbs, in order to be appropriately used in a context, require a predetermined relation between various events or entities. If this relation is not established in a situation or is not implied by the previous context, then the use of the adverb is inappropriate. The theory of ICMs, on the other hand, helps us determine how and when this underlying relation for an adverb is established. In so doing the importance of considering cultural and circumstantial factors related to the adverbs and their users is highlighted.

While explaining the anchoring of adverbial semantics to real world knowledge and cognitive processes, it will be seen that the relevance of our observations is not restricted only to Russian. Our contention is that adverbs in any language draw a part of their meaning from the socio-cultural surrounding in which they are used and also from the psychological makeup of the human mind. As a result, the views expressed in this chapter pertain to adverbs in general without restricted reference to any particular language. We hope that this study succeeds in revealing at least some cognitive and pragmatic factors that tacitly as well as overtly affect the meaning and use of any language category.

Finally, a short note on the material that could not be included in this work. One of our initial objectives was to also show a correspondence between surface morphology of some Russian epistemic modal and attitudinal adverbs and the degree of subjectivity in their semantics. The study failed to give any conclusive results. However, its brief outline is included in the form of an appendix to the present work.

II. SEMANTIC CLASSIFICATION OF ADVERBS

The data for the present work consist of only certain kinds of sentence adverbs and evaluative manner adverbs. But it is necessary that we familiarize ourselves with the semantic nature of adverbs in general and study their syntactic peculiarities in sentences. The classifications which are imposed on them can then give us some idea of how they function in a sentence semantically and shed some light on the criteria that have been employed in various taxonomies. This review includes both Russian as well as English works. The reason for the inclusion of English works resides in their treatment of sentence modifiers which differs drastically from that in Russian grammars. English grammars show a steady progression toward a pragmatic study of adverbs. We believe that they provide us with an important insight into the modificatory role of adverbs in live discourse.

In our English segment the taxonomies deal with both **-ly** as well as **non -ly** adverbs expressed as a phrase. Apart from the semantic classifications, the chapter also reviews a major work by S. Greenbaum (1969) which taxonomizes adverbs from a discourse point of view. This taxonomy examines adverbs not within the limits of a single sentence but as elements of a larger discourse with their relevance to the adjacent sentences. As a result, Greenbaum's study of adverbs will serve as a first step toward revealing their pragmatic function.

During the review of Russian adverbs we find it necessary to also include some comparative discussion of the concept of modality in English and Russian. The reason for this seemingly divergent segment resides in the fact that most of the sentence modifiers of our interest are considered in Russian as modals. The discussion on modality also covers the historical development of the Russian category of modals.

A survey of works on manner adverbs reveals the striking fact that most of them focus on the lexical semantics of adverbs either in isolation or in combination with the lexical meanings of verbs. This kind of analysis then serves as the basis of most subsequent classifications, where adverbs are grouped into different classes on the basis of how they modify a verb and what additional information they provide. Other somewhat less important criteria on which adverbs tend to be classified are :

their position in the sentence and their morphological form. Although we do not intend to go into the details of these taxonomies, we shall later review the positional constraints and the relation between semantics and morphological structure of these adverbs.

We begin our literature survey with some of the works in the fifties and sixties. The peculiarity of this period lies in the prominence that was given to the parts of speech and constituents, other than adverbs, which show adverbial functions in a sentence. In this regard the contributions of G. Taylor (1956) and W. Rutherford (1968) on the functional distinctions of adverbs in English warrant special attention. For these authors the question of the modificational function of adverbials is loosely generalized by the remark "adverbs modify verbs."

W. Rutherford , G. Taylor.

Rutherford's taxonomy only deals with simple sentences. The semantic types of adverbs which he suggests are :

Location : Two types of location slots are distinguished :

a) Place :

He is at home.

b) Direction :

He is going home.

Time :

He will arrive tomorrow.

Manner :

They got their by plane.

Agentive :

Did you ever eat with chopsticks ?

Frequency :

I seldom go downtown.

Taylor's taxonomy deals with complex sentences in which the adverbial clause bears a certain semantic relation to the main clause. For example, it may serve as the reason for, or the result of, what has been stated in the main clause. This functional as well as semantic bond between the two clauses is used by the author as the major criterion in the classification of adverbs. He divides them into the following classes :

Reason or purpose :

Charles left for home early because he had to study.

Result :

The man spoke so rapidly that I could not understand him.

Opposition :

Ralph bought that used car although we advised him against it.

Comparison :

The weather is better today than it was yesterday.

Place :

Wherever we went we seemed to see interesting things.

Time :

When I visited Rome I saw the famous coliseum.

Condition :

I will give Mr. Anderson your message if I see him tomorrow.

In both of the above classifications very little is said about adverbs which modify not a verb but rather a noun head. E.g.,

The student at the door is new.

The shoestore downtown is very large.

The underlined adverbs in the above two sentences are normally considered adverbs because they answer the question *where* . But because Taylor and Rutherford base their taxonomies on the definition of adverbs as a category which modifies verbs only, they are unable to account for this additional property of adverbial semantics.

Academy Grammar

Russian adverbs are discussed at length in *the Academy Grammar* (V. Vinogradov et al.1954). However, the major portion of the section deals with their morphology and derivation. The discussion of their semantic classification employs the very familiar, most commonly used criterion : the lexical semantics of the adverb. On this basis all adverbs are classified into two major groups : qualitatives and situationals (obstojatel`stvo). Each of the two are further broken down into several subdivisions depending on the semantic nuance expressed by them.

Qualitatives

a) Pure Qualitatives

bystro (quickly)

šumno (noisily)

b) Quantitatives, which in turn are subdivided into

Intensity	očen' (very)
Duration	dolgo (for a long time)
Repetition	často (frequently)
Degree	nemnogo (a little)

Adverbs expressing both qualitative as well as situational semantics are placed into an intermediate group and called "quantitative manner adverbs". E.g.,

idti poparno (to go in pairs)

učit' naizust' (to learn by heart)

Situationals are subdivided into adverbs of

Time	teper' (now), včera (yesterday)
Place	vezde (everywhere), vnizu (down)
Reason	sduru (out of stupidity)
Purpose	naprasno (for no reason), nazlo (out of evil),

etc.

The treatment of the category of adverbs in the Academy Grammar represents the traditional approach adopted for their taxonomy in the fifties. It takes into account only the lexical semantics of adverbs without any consideration of various semantic and syntactic components to which they refer. However, in the works to be reviewed below this shortcoming begins to be slowly rectified. Other modificational references are noted. We shall survey three major works which attempt to shed some light on the constituents other than verb which can be modified by an adverb.

A. Vitek

The functional ambiguity between adverbs modifying just verbs and those modifying other constituents is noted by A. J. Vitek (1967). Aware that the determination of the modified head is extremely difficult and sometimes arbitrary, he is also cognizant of the fact that an adverb can modify an entire sentence. His typology is restricted to Russian adverbs and categorizes adverbial types on the basis of their modified heads.

Post-nominal modifiers, which semantically function as attributes of a nominal :

Kniga na stole napisana novym nemeckim avtorom.

The book on the desk is written by a new German writer.

Predicate modifiers, which function as the qualifier of a verb :

Mama slušala menja s bol'šim interesom.

Mother listened to me with great interest.

Predicate substitutes for a zero verb form :

Eto kstati.

While classifying adverbs according to their function in a sentence, Vitek pays special attention to the relation between the adverb and the semantic arguments of the predication. He sees three basic types of relation between an adverb and the predication, as follows :

The adverb modifies the verb with reference to the subject :

Ivan s ogorčeniem kriknul na druga.

Ivan in annoyance screamed at his friend.

The adverb modifies the verb with reference to the object :

Ona znala eë zamužem.

She knew her as a married person.

The adverb modifies the verb without any reference to either the subject or the object in the sentence :

Maša naprasno bespokoilas'.

Masha unnecessarily got worried.

The attempt to define the referential function of adverbs which is found in Vitek's treatment of the category was given emphasis in many later works of the seventies. In his classification of adverbs one can see the roots of the idea that adverbs do not necessarily modify a verb -- that semantically they can refer to various other constituents of sentences. This development in the treatment of the adverbial category is pursued in the classification of adverbs proposed by C. Power which is reviewed below.

Carol Power

Power (1974) discusses adverbs refering to subject, object or predicate within tagmemic theory. In the present work we shall only review her taxonomy; in this she recognizes the following referents of adverbial modification.

a) An adverb can modify subject or predicate of a sentence :

On umer ot skuki. (predicate modifier)

He was bored stiff.

Devuška na dvore moja sestra. (subject modifier)

The girl in the yard is my sister.

b) It can be a predicate in the absence of a verb :

Mne xolodno.

I am cold.

c) An adverb may modify an object, adjective or other adverbials :

On idët sliškom bystro. (adverbial modifier)

He is going very fast.

It may modify the entire sentence :

V devjat' časov oni pokušali.

At nine they ate.

Depending on their semantic modificational function, predicate modifiers of the first group are further broken down by Power into five subgroups : temporal, locational, manner, causative and intensifier. Manner adverbs in turn are semantically distinguished on the basis of what question they answer, exemplified as follows :

In what way ?

Suxo.otlično (dryly,well)

Under what condition ?

Bez vas, v barxatnom pidžake. (without you, in a velvet jacket)

With whom ?

Ona priexala s mužem. (She came with the husband)

With what ?

S vašimi umnymi glazami. (with your bright eyes)

In what capacity ?

Idti v gosti. (to go as a guest)

A glance at the above groups highlights the evident fact that Power's classification of adverbs coincides significantly with that proposed by Vitek, differing from it only in some details. However, as we advance from one author to another, more and more semantic facets of adverbial modification are brought to light. While Vitek pointed out various syntactic constituents of the sentence to which different adverbs refer, Power further developed the idea by revealing in how many ways a given constituent can be modified. In other words, her breakdown of adverbs into different classes shows several semantic nuances that are emphasized by the adverbial modification.

S. Huang

The thought that an adverb modifies a verb by highlighting a particular semantic element of the action is also developed by Shaun-Fan Huang (1975) who, in the same way as Vitek and Power, distinguishes manner adverbs on the basis of differences in the modified heads - i.e., various semantic elements in the predication to which the adverb refers. But again, his classification reveals a few more aspects of adverbial modification not covered by the earlier two authors. Thus manner adverbs are distinguished from result adverbs insofar as the former express the mode of action, while the latter indicate the nature of the result of the action under question. E.g.,

John drives carefully. (Manner)

John writes legibly. (Result)

Huang's important contribution to the topic lies in his recognition of three semantic factors that make up the semantic structure of an action : 1) the state of mind of the actor, 2) the actual performance of the action, and 3) the result of the action. In his view an adverb modifies any one of the above three aspects of an action. Depending on what element is referred to, the following types of adverbs are proposed.

State of mind adverbs :

Mary willingly accepted the offer.

Manner adverbs :

John smiled broadly.

Evaluative adverbs :

He clumsily stepped on the snail.

Adverbs of result :

He spelled the word correctly.

Attitude adverbs :

Surprisingly, John finished the work in time.

Performative adverbs :

Frankly speaking, he is not a very reliable worker.

Epistemic adverbs :

John is possibly sick.

Apart from the above classification Huang also tangentially mentions two different referential properties of the same adverb when occurring in semantically related but syntactically different structures. For example, in the following two sets:

a) The paper xeroxed well.

The books sold quickly.

b) John xeroxed the paper well.

John sold the books quickly.

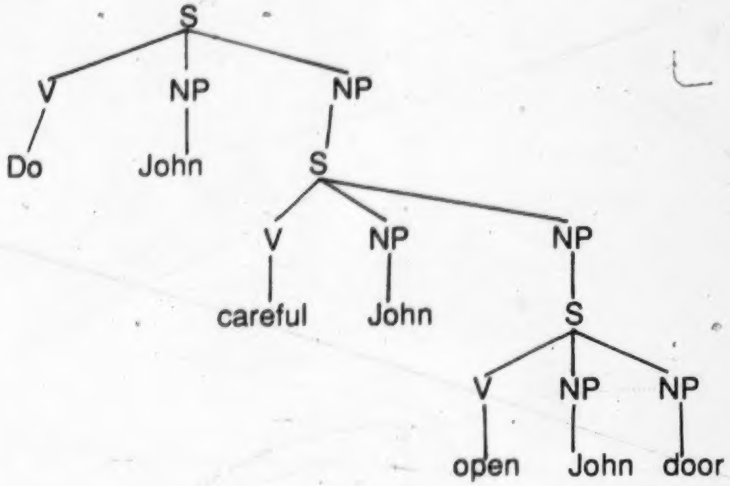
the structures in a) refer to the process while those in b) highlight the agent of the action. Therefore, they are respectively called by the author as *process-oriented* and *agent-oriented* adverbs.

He notices in passing another functional property of adverbs : sometimes they do not modify the verb directly but provide another action on the background of which the main event takes place. E.g.,

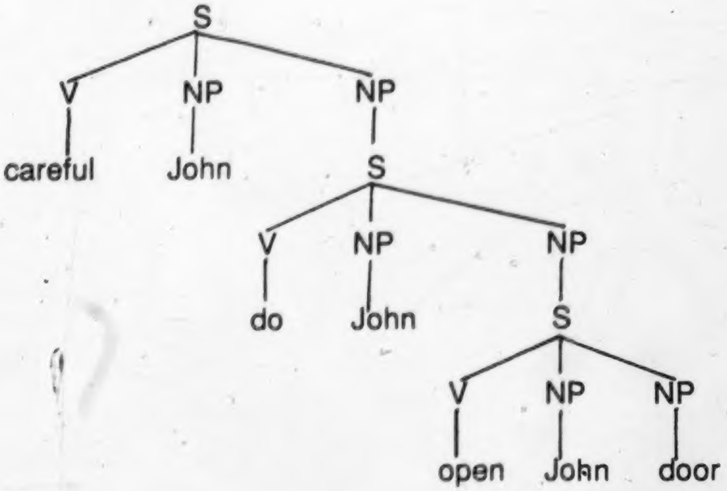
Mary blushingly returned his greetings.

Huang tries to give preliminary syntactic structures in which such adverbs function in order to account for the ambiguities in their meaning. He claims that all state of mind and manner adverbs are two-place predicates relating an agent and an event. Epistemic adverbs, on the other hand, indicate how an event or an expression should be perceived in a broader context. They contribute only indirectly to the description of an event. In order to distinguish manner and epistemic readings of an adverb in the following sentence, "John carefully opened the door". he proposes the following structures.

Manner adverbial :


S
V
NP
NP
Do
John
S
V
NP
NP
careful
John
S
V
NP
NP
open
John
door

Epistemic adverbial :


S
V
NP
NP
careful
John
S
V
NP
NP
do
John
S
V
NP
NP
open
John
door

However, later in the same work these structures are discarded by the author as *ad hoc* solutions to the semantic ambiguities of adverbs. His final solution is to consider them to be totally different but homophonic words.

Huang's work has its own place in adverbial study. His analysis of any action into three semantic components indicates the expansion of the study of adverbs in the direction of their discourse relevance. The consideration of the state of mind of the actor or the after effects of the action already encompasses factors which are not included in the lexical semantics of the adverbs. The traces of discourse elements found in Huang's taxonomy were already anticipated in an earlier work by S. Greenbaum (1969), who saw the need to clarify adverbs both in terms of their sentence-internal modificatory function, as well as their textual properties.

S. Greenbaum

Sydney Greenbaum (1969) attempts to treat adverbs as a category that plays a specific role in the arrangement of various propositions in a text. He classifies them not just within the boundaries of a sentence but in an extrasentential environment, determining how each adverb connects adjacent sentences and exerts constraints on discourse. Depending on their role in deciding the relationship between two sentences, adverbs are classified by Greenbaum into adjuncts, conjuncts and disjuncts. The three classes form a gradient of integration into the clause : adjuncts are most integrated into the clause while disjuncts are the most peripheral of the three (p. : 15).

1) Adjuncts are very tightly bound with the clause, mainly with the verb and therefore can not occur in sentence initial position. They can serve as the focus of clause interrogation and negation (p. : 24) Examples are :

down, never, well, always, again and so on.

The three above cited characteristics of adjuncts are illustrated by the following sentences.

* Down he burnt the church. (inability to occur in initial position)

He did not always reply to my letters. (ability to serve as the focus of clause negation)

Did he again refuse to pay ? (ability to serve as the focus of clause interrogation)

2) Conjuncts are believed to indicate some connection with what has been said before, thereby bridging two

statements. Adverbs such as *however, so* are examples of this class (pp : 28). E.g.,

We offered her all the help we could. However, she has to find her own answers.

3) Disjuncts, on the other hand, do not indicate any connection with the previous statement. Rather, they express the speaker's evaluation of what is being said with respect to either the form of the communication or its content. As a result,they lack the integration within the clause to which they are subordinate (p. : 25). E.g.,

Briefly, the director is not interested in our project.

Greenbaum's disjuncts correspond to what have been traditionally termed as epistemic adverbs. Their syntactic characteristics more or less coincide with the criteria that characterize sentence modifiers.

To distinguish conjuncts from other types of adverbs, Greenbaum proposes the following tests :

1) Conjuncts are acceptable in clause initial position, both in affirmative as well as negative clauses.

2) They cannot be the focus of the clause interrogation. E.g.,

* Did he reply therefore or did he reply nevertheless?

3) Conjuncts cannot serve as the focus of clause negation. E.g.,

* He did not reply therefore.

4) They can not be the focus of clause comparison. E.g.,

* He more nevertheless replied to my letter.

5) Conjuncts can not be modified by other restrictives. E.g.,

* He only nevertheless replied to my letter.

6) They can not serve as the focus of a cleft sentence. E.g.,

* Moreover is how dad was not interested in buying the house.

7) Conjuncts can not serve as a sole response to a wh-question. E.g.,

* Why are they taking drugs?-Therefore.

8) They can not be a sole response to a simple yes-no question. E.g.,

* Did they answer?- Nevertheless.

Of these criteria, only # 8 distinguishes conjuncts from disjuncts. The remainder distinguish both disjuncts and conjuncts from adjuncts. However, since disjuncts do not semantically indicate any relation whatsoever with the previous segment of the discourse, the difference between conjuncts and disjuncts should be considered not syntactic but more of a semantic/pragmatic nature.

These three major groups are further broken down by the author into several semantic-functional subclasses. Because this breakdown helps us know more about the linking property of adverbs in a text, we shall include it in our survey. However, the scope of adjuncts (i.e. adverbs of manner, degree, frequency) is invariably confined to the clause in which they are embedded and therefore they exert very little influence on other sentences in a discourse. As a result, we shall only review the subclassifications of conjuncts and disjuncts.

Conjuncts

Depending on the nature of the relation that conjunct adverbs hold with their neighbouring sentences, they are classified into various semantic classes.

a) Enumeratives denote the inventory of what is being said. E.g., *firstly, finally, lastly*

> Finally, I would like to reiterate that we need to improve the quality of our products.

b) Additives indicate (predict) an addition to what has been said before and either reinforce it or denote some similarity with what is going to follow. E.g., *also,* *furthermore, likewise, similarly* etc.

Their firm is going to take legal action against us. Furthermore, they made it clear that they will not settle for anything less that $ 50,000.

c) Transitional conjuncts mark some change from what has been said before but indicate the continuance of the discourse. E.g., *incidentally*.

I saw Tammy at the airport. Incidentally, do you know that she is going back to school?

d) Explicatory conjuncts indicate that what is being said is an explanation of what has been said before. E.g., *namely, thus*

I would suggest you to try our new products, namely those with low fat content.

e) Contrastive conjuncts indicate that what is being said is in contrast with what has been said before. E.g., *instead, rather, conversely* and so on.

Betty was asked to concentrate on Math. Instead, she took tution in Chemistry.

f) Illative conjuncts introduce a consequence of what has been said before. E.g., *accordingly, consequently*.

Over the time the cords lose their elasticity. Consequently, the tension drops.

g) Inferential conjuncts denote that what is being said is a consequence of a condition that has been stated or implied in the previous context. E.g., *else, otherwise, then* etc.

Pay your bills before 10th, otherwise they will charge you heavy interest.

Disjuncts

On the basis of their semantics, disjuncts are classified by Greenbaum into two groups :

a) Style disjuncts refer to the form of the communication. (By the term *form* the author understands the length of the statement,its complexity or the speaker's attitude toward it.) Accordingly, adverbs such as *seriously, quite simply, strictly speaking* fall in the class of style disjuncts. In the author's view they can have paraphrases which denote the style of the form of the speech. E.g.,

Confidentially, she is very stupid. ==> I am speaking confidentially that she is very stupid.

b) Attitudinal disjuncts express the speaker's attitude to what is being said or his evaluation of it in terms of probability. E.g.,

Probably/certainly. John will agree to sell his car to me.

Surprisingly, the repairs did not cost me much.

While basing his taxonomy of adverbs on their effects on adjacent sentences, Greenbaum also draws attention to the different speech act functions of an adverb. For example, in his discussion of some individual disjuncts he distinguishes two functions of the adverb *actually*. One meaning reinforces that what is being said is factually true. E.g.,

Actually, he got drunk.

The other function indicates that what is being said is not anticipated by the hearer since it contradicts his presupposition about the situation which was described previously. E.g.,

He actually got drunk.

The importance of Greenbaum's book lies in his attempts to classify adverbs on the basis of their function as an element in discourse. He considers at least some of them to be indicators of the nature of the pragmatic relation between two adjacent statements.

The Russian sentence adverbs such as *po-vidimomu* (apparently), *očevidno* (evidently), *k sožaleniju* (unfortunately) which are a central concern of this dissertation belong to Greenbaum's class of disjuncts. However, their classification in the Russian linguistic literature, unlike the English, is marked by extreme heterogeneity. Firstly, they are considered as modals and then further subclassified into various groups on the basis of such diverse criteria as lexical semantics, morphological structure and etymology.

Traditional Classification of Russian Adverbs

Before we examine any cognitive aspect of these adverbs it is necessary to explore briefly the tradition behind the Russian approach. The major works to be included in our survey are : Potebnja's Iz zapisok po russkoj grammatike (1941), Šaxmatov's Sintaksis russkogo jazyka (1943), and Vinogradov's Russkyj jazyk (1972). A few other works will be mentioned in passing whose authors followed the lead of the first two grammarians.

A. Potebnja

In Iz zapisok po russkoj grammatike Potebnja devoted very little space and attention to the category of adverbs. Nevertheless, it had a profound impact on many works of the forties and fifties.

An adverb is defined by Potebnja as a form used for the expresssion of obstojatel'stvo (circumstance). "It is a property associated with some other property, only through which it can relate to the subject or object of the sentence and otherwise having no connection with them (1958 : 124)." He further adds that according to this definition nouns, adjectives or verbs cannot function as adverbs. From an etymological point of view two kinds of adverbs are recognized : 1) nominal adverbs which are believed to originate from simple sentences and further broken down into a) those derived from nouns and adjectives, e.g., *gorazdo, jako, malo* and so on, and b) those coming from an object (dopolnenie) e.g., *za utra*; 2) predicative adverbs, derived from predicates (skazuemye) which have their origin in conjoined sentences. E.g., *čut' živ.*

What interests us most is his mention of the presence of modal meaning in structures assigned to the category of mood, and the sentential origin of verb particles standing outside the main clause. E.g., the structures in Old Russian :

Byti gromu and Byti est' gromu

are cited as examples of indefinite mood (neopredelennoe naklonenie) with the modal meaning of inevitability. However, modality is discussed only in relation to indefinite mood and therefore, does not achieve the status of a separate category. The next important point in Potebnja's work is his analysis of verb particles in such structures (again belonging to the indefinite mood) as

Znat' žit' tebe bogato.

where *znat'* is taken to stand outside the main clause and carry a modal nuance. Syntactically, the expression is believed to have its origin in the Old Russian structure *Znati est' žiti est' tebe bogato* where *znati est'* later lost its sentential status and was reduced to a verb particle.

Recognition by Potebnja of modal nuances in the indefinite mood and his analysis of parenthetical verb particles as original introductory sentences influenced the treatment of modals and sentence modifiers in many subsequent grammars.

A.Šaxmatov

Šaxmatov in his Syntaksis russkogo jazyka assumes a close interaction between adverbs and modals and this assumption is reflected in his taxonomy of adverbs. However, his lack of uniform criteria for the definition of adverbs expressing a speaker's subjective evaluation of, or attitude toward an event, resulted in the classification of very similar adverbs into categories as diverse as parenthetical constructions, conjunctions, introductory words and phrases, category of mood, "obstojatel'stvo" (circumstance) and so on. The morphological treatment of these words borrows heavily from their analysis by A. Potebnja : they are seen as underlying sentences whose meaning was weakened and syntactic structure reduced to unfinished utterences or particles. Therefore, it is not surprising that many adverbs are categorized by Šaxmatov as vvodnye slova (introductory words) with specific mention of their sentential origin. For example, such adverbs as *verno* (probably), *dolžno* (possibly) are taken to belong to the class of vvodnie slova (introductory words) and are analyzed as odnosostavnye narečnye predloženija (single component adverbial sentences) (1943 : 271). E. g., Dolžno, on uexal.

Possibly, he has left.

Vy, verno, boites' ezdit' verxom.

Probably, you are afraid to ride a horse.

where *dolžno* and *verno* are believed to represent truncated full sentences.

The adverbs *verojatno, možno, naverno, kažetsja* are taken to belong to the category of naklonenie (mood) - a clear indication that Šaxmatov is aware of a strong link between some adverbs and modality. Again, morphologically, they are taken to be underlying sentences later reduced to the status of single words.

The justification given by Potebnja and Šaxmatov for assuming sentential origin for these adverbs is that some dvusostavnye and odnosostavnye (double and single component) sentences, on losing a part of their sentential meaning, also lose some of their syntactic structure. The reason for such syntactic shrinkage is that these sentences, when in the proximity of other sentences, convey very insignificant information except for the subjective feelings of the speaker, or of some third individual located in one of the morphemes of the sentence. The additional structure also carries very little functional and phonetic emphasis in the overall flow of speech, resulting eventually in its phonetic reduction. Most commonly cited examples of such reduced sentences are :

> Ja čaju --> čaju --> čaj
>
> (Kto-to) govorit --> govorit --> gryt (only in colloqual spoken Russ.)
>
> vѣdѣ --> ved'

Dolžno, slyšno are taken to be *odnosostavnye* (single component) sentences structurally identical to *temno, xolodno* and so on.

Such adverbs as *konečno* , *vidno,* which are semantically similar to *verno* and *dolžno,* are classified under the category of soputstvujuščee obstojatel'stvo (accompanying circumstance) which is characterized by the author as a secondary category, independent of any individual constituent of the sentence, referring to the whole sentence and denoting the subjective feelings of the speaker about the event described in the main clause. E.g.,

> Ja, konečno, pozvolil sebe sprosit' : na kakom prave delaetsja ѐto različie.
>
> Of course I let myself ask : In what capacity is this

distinction made.

On, vidno, zamučennyj piruškoj ili delom, sidel na svernutoj posteli i dremal.

Evidently, troubled by the celebration or the work, he sat on the folded bed dozing. (1943 : 117)

Expressions such as *po-vidimomu, k sožaleniju*, are not specifically included in Šaxmatov's discussion of any of the above categories. But judging from his definition of *soputstvujuščee obstojatel'stvo* , we can speculate that they would be analyzed either as included in the category or as introductory words expressing the speaker's subjective attitude.

Šaxmatov's taxonomy is strongly characterized by an inconsistency of criteria used to subdivide adverbs into different word classes. For example, epistemic modal adverbs such as *verno, dolžno* are labelled as introductory words on the basis of their etymological background. But the semantically and etymologically similar *konečno, vidno,* on the other hand, are shown to belong to the different class of *accompanying circumstance* without clearly spelling out the criteria for their distinction from *verno* and *dolžno*. The classification is also reflective of the traditional use of adverbs as a catch-all term for many unrelated lexical items. However, Šaxmatov's important positive contribution to the topic lies in the attempt to show strong links between some adverbs and the category of mood. The revelation of such links led in future studies to the highlighting of the subjective elements hidden in adverbial semantics. This in turn, was able to explain the prominence later given to speaker's subjectivity in the definition of modality.

Potebnja's and Šaxmatov's lead, along with its inadequacies is reflected in the majority of grammars of that period, for example, in Davydov's Opyt obščesravnitel'noj grammatiki (1852), Ovsjaniko-Kulikovskij's Sintaksis russkogo jazyka (1912), Peškovskij's Sintaksis (1965) to name a few. We shall only briefly mention the highlights of their treatment of adverbs of our concern.

In Davydov's Opyt obščesravnitel'noj grammatiki such adverbs as *podlinno, točno, verojatno* are labelled as adverbs with the function of the category of mood. Ovsjaniko-Kulikovskij, in his Sintaksis assigns them to the class of adverbs with modal meaning. But following Potebnja's trend, he emphasizes their sentential origin. However, no underlying sentences for such adverbs as *po-vidimomu, slovom* are provided. Instead, they are called introductory adverbs. In A. Vostokov's Russkaja grammatika most of the epistemic modal adverbs are termed as adverbs, but of a special kind. He distinguishes the following five subclasses of adverbs that determine the validity of an action or a state :

Question adverbs	razve, neuželi (really)
Assertive	podlinno, istinno, dejstvitel'no (truly)
Anticipatory	možet byt' (maybe) , avos' (perhaps)
Negative	ne, ni (no, not)
Restrictive	tol'ko, edinstvenno (only)

V. Vinogradov

The lack of definite criteria in classifying adverbs and the resulting heterogeneity among the members of various subdivisions was strongly felt by Vinogradov. In his opinion, the root cause of the extreme diversity in the treatment of similar adverbs stems from two deficiencies of traditional grammar : the use of "adverb" as a blanket term, and secondly, the absence of a systematic definition of modality.

In Russkij jazyk (1972) Vinogradov tries to rectify the above shortcomings by distinguishing modals and adverbs as two distinct but related categories and by formulating a definition of modality. In his estimation, modality references not only the relation between a proposition and reality but also between the speaker and the proposition, as well as the speaker's views about the style of the statement. This imparts a wider scope to the category and incorporates many lexical items which in English grammatical tradition are normally considered as adverbs and not modals. E.g., *pravdu skazat'* (to be honest), *korotko govorja* (briefly), *k sožaleniju* (unfortunately) and so on. Before turning to Vinogradov's classification, let us briefly compare this definition of modality with that of some of the western linguists.

Russian vs. Western Concepts of Modality

In English a fairly well known but rather vague definition of modality is given by M. Marino, who states that

> Modality in its broadest sense is the speaker's view of the potential involved in the predication. (1973 : 312)

In Lyons this definition of modality is narrowed down and regarded as :

> having to do with possibility or probability, necessity or contingency, rather than merely with truth or falsity. (1971 : 322)

Jespersen's On modality in English (1924) defines modality only through the notion of mood. He recognizes three moods in English : indicative, subjunctive and imperative. According to Jespersen, they express a certain attitude in the mind of the speaker toward the contents of the sentence. But since in this definition mood and consequently modality are necessarily expressed in a verb form, they are considered as syntactic categories and not notional. This definition of mood is rejected by Lyons who proposes that

> Mood should be defined purely semantically and in relation to an unmarked class of sentences which express simple statements of facts, unqualified with respect to the attitude of the speaker toward what he is saying. (1968 : 307-8)

Thus there seems to be no general agreement on how to define the terms mood and modality. For the limited purpose of this work we shall adopt L. Hermeren's definition according to which modality comprises expressions of volition, ability, various degrees of likelihood, obligation, wishes and permission. (1978 : 12)

In comparison with English the Russian definition of modality, based largely on Vinogradov's work, seems to be more flexible, broader in its range and therefore inclusive of a larger number of lexical items than English. Vinogradov's definition of modality is as follows :

> Modality indicates the relation of a proposition to reality. It can also refer to the style of the statement or evaluate it. It can either objectively justify and evaluate the proposition or the style of the statement or express the speaker's subjective viewpoint toward the two. (1972 : 564). (translation K. D.)

At the same time he spells out a second important property of the category of modals : they do not show a strong connection with any particular constituent of the sentence, thus necessarily holding only a parenthetical relation to the sentence which they modify. The words and phrases assigned by V. Vinogradov to the category of modal would include:

vidite li (do you see), govoritsja (they say, it is said), kstati (by the way), glavnoe (importantly, mainly), korotko govorja (briefly speaking), krome togo (besides), k sožaleniju (unfortunately), verojatno, naverno (probably)

From this definition and these examples of modality it is evident that in Russian a parenthetical relation to the main clause plays a crucial role in deciding whether or not a sentence modifier is understood as a modal. This explains the inclusion of such expressions as *pravdu skazat'* (truthfully), *slovom* (in a word), *znaete li* (do you know) in the class of modals. Thus the definition of modality in Russian is not restricted to some reference to probability, necessity, assurance or possibility of the occurence of an action as in Lyons, but also encompasses any subjective evaluation or attitude expressed by an individual toward the main proposition of the sentence. Having discussed in brief the Russian concept of modality let us now examine Vinogradov's classification of sentential adverbs.

Taxonomies of Adverbs

Vinogradov furnishes two different taxonomies of sentence adverbs based on two different criteria : morphological and semantic. Morphologically, they are divided into three different groups : modal particles, modal words, and modal phrases. To the first group belong such parenthetical particles as :*ved'* (you know), *vsjo že* (nevertheless), *čaju* (hopefully). Examples of modal words are: *dolžno* (possibly), *verojatno* (probably), *kažetsja* (it seems). The third group of modal phrases includes the expressions: *k sčast'ju* (fortunately) *voobšče govorja* (generally speaking) *po vsej verojatnosti* (most probably) and so on.

The members of the above groups are semantically classified into twelve classes. The criteria underlying this semantic taxonomy pertain to their lexical semantics, modificatory function and morphological makeup. Since only attitude and epistemic modal adverbs fall within the scope of the present work we shall extract only these two from his 12-group classification.

The epistemic modal adverbs such as *verojatno* (probably), *ponjatno* (understandably), *nesomnenno* (undoubtedly), *očevidno* (evidently), *bezuslovno* (certainly), *po-vidimomu* (apparently) etc. are shown to belong to one group whose modality refers not to the subjective attitude of the speaker but to the logical evaluation of the validity of the assertion. (1972 : 57)

Attitude adverbs expressing the subjective feelings of a person such as *k moemu udivleniju* (to my surprise), *k sožaleniju* (unfortunately) are labelled as modal phrases and divided into two groups morphologically : a) "imennye" (nominal) - derived from nouns. E.g., *k sčast'ju* (fortunately) ..; and b) "glagol'nye" (verbal) - derived from verbs. E.g., *pravdu skazat'* (truthfully) ..

The strong connection between some adverbs and modality had earlier been expressd by Potebnja as well as by Šaxmatov. However, in their works modality was not spelled out as a separate category--a task undertaken by Vinogradov. Vinogradov's division of all modals into twelve semantic classes considerably reduced the heterogeneity observed among members within one class. However, after reviewing a portion of this new classification one gets the impression that instead of adverbs, now it is the category of modals that is being used as a general term to denote all lexical items expressing the subjective attitude of the speaker. This considerably enlarged domain of modals results from the stretching of the term beyond the relation between a statement and reality to the inclusion of a speaker's personal attitudes and references to the stylistic makeup of the statement. In such extension of the term resides the inherent difference in the understanding of modality in Russian and in English grammars. Its impact on the focus of this work, namely sentence modifiers, is that while they are considered "adverbs" in current English grammars, they are assigned in Russian to the category of modal.

The classifications reviewed in this section were based on the semantics and morphological makeup of adverbs. In the majority of these works when adverbs were assigned to different classes their modificational scope was not taken into account. As a result, the functional multiplicity of adverbs was not properly revealed. In Vinogradov's treatment of the category one can see a step in this direction. That modality can be further taxonomized in terms of modificatory function is strongly advocated in a work by D. Crockett (1971). Below we shall briefly review her classification in which epistemic modal adverbs are discussed in the light of the grammatical category to which they should belong and are shown to have homonymous forms with distinct modificatory functions.

D. Crockett

Adverbs such as *vidno, bezuslovno* are discussed in detail by D. Crockett from a different perspective (1971). She deals with them in relation to their homonymous evaluative manner adverbs and short adjectives, specifying a need to distinguish the forms with modal semantics from the latter two. Before we proceed to examine her arguments, let us explain in brief the case of homonymy in modal words and manner adverbs with the example of *bezuslovno.*

On bezuslovno soglasitsja.

The adverb *bezuslovno* in the above sentence can perform two different modificational functions, thereby rendering two different semantic readings. In one function it is considered a manner adverb modifying the verb and has the semantic reading :

He will agree unconditionally.

In the second function the adverb is a sentence modifier and has epistemic modal meaning which expresses the following proposition: He will certainly agree.

Thus the adverb, according to Crockett, represents two functionally distinct words with identical morphology.

In case of some adverbs, e.g, *verno*, the homonymy is threefold. The third form is analyzed by the author as short adjective. It occurs in sentence initial position and obligatorily takes S as its complement. E.g.,

Verno, čto on rešil̦ zadaču.

It is certain that he solved the problem.

Crockett challenges the inclusion of forms with epistemic modal meaning into the category of adverbs and instead assigns them to a new class which she calls modal words. The argument furnished in support of the proposed distinction and the new term proceeds as follows.

In a phrase tree the manner adverb and short adjective fall under a VP node : a manner adverb modifies the verb while a short adjective serves as the sole predicate which can be extraposed. As a result, in sentence initial position both represent dependent constituents, while modal words, in Crockett's view, should be dominated by a separate modal node since they are independent constituents.

The syntactic difference between modal words and homonymous manner adverbs is further supported by the application of nominalizations. Only manner adverbs and not modal words can be nominalized, e.g.,

On verno rešil zadaču. (manner adv)

He correctly solved the problem.

Ego vernoe rešenie zadači. (nominalization)

His correct solution of the problem.

On, verno, rešil zadaču. (modal word)

* No nominalization possible.

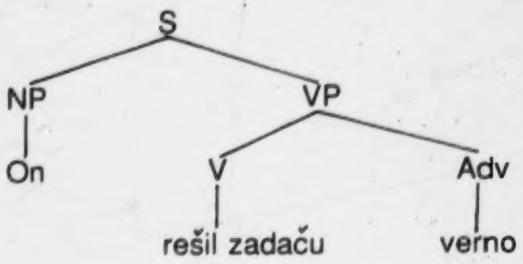
The distinction between modal words and short adjectives is further justified by indicating the capacity of short adjectives to take intensifiers. Modal words are believed to lack this property. E.g.,

Soveršenno verno, čto on rešil zadaču. (short adjective)

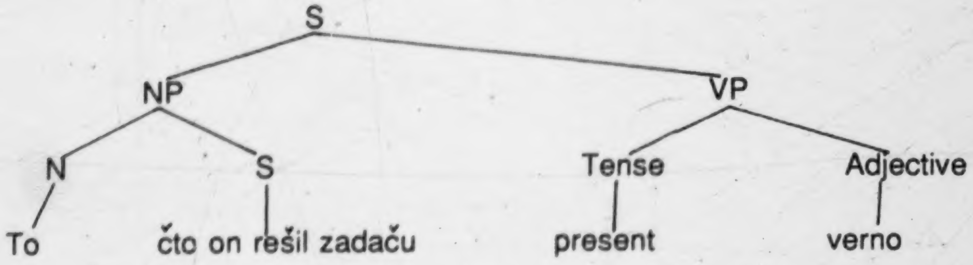
* On, soveršenno verno, rešil zadaču. (modal word)

The difference in the syntactic behaviour of these morphologically identical words is accounted for by Crockett through the postulation of the following distinct structures.

Manner adverb


S
NP
VP
On
V
Adv
rešil zadaču
verno

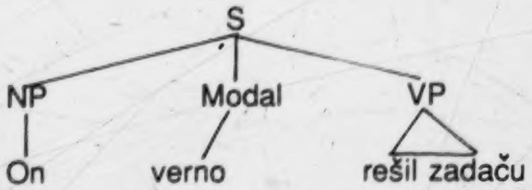
Short adjective


S
NP
VP
N
S
Tense
Adjective
To
čto on rešil zadaču
present
verno

Extraposition transformation =====>

Èto verno, čto on rešil zadaču.

Modal word


S
NP
Modal
VP
On
verno
rešil zadaču

Crockett's attempt to grammatically categorize the above three homonymous forms meets with many difficulties. For example, in Russian the dividing line between the categories of adverbs, state, and sometimes even nouns can be very fuzzy. In the course of development of the language many examples are found denoting the passage of a word from one of these categories into another. E.g., a noun going into the category of state :

nedosug - lack of time

Glavnyj gost' ne mog ostat'sa na obed iz-za nedosuga. (noun phrase)

Due to the lack of time the chief guest could not stay for lunch.

Pisat' tebe poslan'e mne bylo nedosug. (category of state)

I could never write you a note.

Similarly, we can furnish examples of adverbs going into the category of state which is morphologically expressed by a short adjective :

Igrat' veselo im redko udavalos'. (adverb)

They rarely had a chance to play happily.

Igrat' bylo veselo. (category of state)

It was nice to play.

Thus the subdivision of these adverbs with respect to their grammatical categories can encounter many problems. Here we shall not indulge into this issue any more. However, we would like to mention that the question of modificatory scopes of adverbs is elaborately dealt with by many logicians and later a whole chapter will be devoted to their analysis of adverbs.

Summary

In this chapter we examined some major Russian and English works that dealt with the modificatory function of adverbs from a semantic point of view. The primary focus in most of these works was on various semantic components of a verb (e.g. accompaniment, instrument, result etc) to which an adverb makes reference. At the basis of the taxonomies proposed in these works lies the relation between an adverb and its modified head in isolation, i.e. with no consideration of contextual factors acting on the utterence.

Due to these uniform criteria, various classes of adverbs proposed in the above works coincide remarkably. All taxonomies, irrespective of the morpho-syntactic makeup of the adverb, recognize such widely found classes as adverbs of manner, time, location, accompaniment and so on (cf. Rutherford, Taylor and the Academy Grammar).

With the recognition of the *orientation* of adverbs as an important factor in their semantics and functional properties, emphasis begins to be laid on what syntactic argument of the verb is important for adverbial reference. This results in new classifications which render such groups as subject-oriented, and object-oriented adverbs. Insofar as such a taxonomy is considered we can clearly see the striking similarity in the treatments of adverbs by J. Vitek and C. Power.

The concept of the orientation of adverbs toward syntactic arguments of a verb is further developed for English by Huang who proposes that a verb also includes three semantic components which are part of its semantic structure. These three factors are : the state of mind of the actor, the actual performance of the action, and the result of the action. An adverb is capable of modifying any one of the above three aspects of an action. In other words, the taxonomies of Vitek, Power and Huang emphasize the fact that adverbs do not necessarily modify a verb by itself, but rather relate either to its syntactic arguments such as subject, object, or to semantic components such as result of the action or the state of mind of its agent. In Russian similar attempts are made by Crockett. Adverbs having homonymous forms but different modificatory referents are treated as belonging to different categories. Although new categories proposed by her can meet with many difficulties, she certainly brought to our notice fine distinctions in functional domains of adverbs.

We see in all of the above works a gradual evolution towards the consideration of discourse factors in taxonomies of adverbs, albeit still in embryonic form. The breakdown of the category into speaker-oriented and result-oriented adverbs is a sign that reference is being made to those pragmatic elements which are not directly expressed by the verb. Further developments in the use of such discourse elements to explain the behaviour of adverbs in a sentence are seen in the taxonomy proposed by Greenbaum in his Studies in English Adverbial Usage. It deals with the relation of an adverb to its adjacent sentences. In other words, an attempt is made to show how adverbs point backward as well as forward, thereby bridging two sentences, predicting a switch in topic and so on. Such a classification looks beyond the mere lexical semantics of adverbs and reveals their contribution to the structure of the discourse. This is a very important step ahead in the study of the category since the presence of an adverb is shown to affect the coherence of the text.

The Russian approach to epistemic modal and attitude adverbs is markedly different from the taxonomies in English. The above two kinds of adverbs are characterized in Russian by their inclusion into the category of modals, the scope of which is much wider than that of modality in English. We observed that unlike in English, modality in Russian is understood to refer to a speaker's subjective attitude toward the form, style and the proposition of the sentence. This results in the breakdown of such adverbs as *k sčast'ju, interesno, po ironii sud'by* into the class of modals. Since western grammars do not consider these adverbs as modals a detailed review of Russian taxonomies was considered necessary for the proper understanding of the semantic and functional properties of these adverbs.

In the works discussed in this chapter the question of the relevance of the semantics of an adverb to its modificational scope is not raised to any significant level. However, the semantics, modificatory domains and other syntactic properties of an adverb are closely interrelated. Also, the position of the adverb greatly affects its function in the sentence. In the following chapter we shall review two formal approaches which deal with the derivation of adverbs and attempt to account for the positional constraints acting on their semantic modification.

III. TWO FORMAL APPROACHES

In the previous chapter we surveyed the Russian and English literature that dealt with various issues concerning the semantic properties of adverbs and their modificatory function in a sentence. These studies shed some light on different aspects of an action to which adverbs can refer. They also highlighted the fact that an adverb may modify a verb in relation to other constituents of the sentence, i.e. with respect to the subject or the object of the action. The discourse taxonomy brought to light the role of adverbs in establishing the relation between two adjacent senetences. Finally, the section on Russian adverbs revealed some differences in the concept of modality as defined in Russian and English. This elaboration was necessary for the proper comprehension of the classification of Russian sentence modifiers.

Transformational Account of Adverbs

In this chapter we shall proceed to examine two formal approaches that are adopted to explain the syntactic behaviour of English adverbs. The main concern of these approaches has been to account for the semantics of an adverb in terms of its place in a phrase. The majority of works of this kind derive adverbs transformationally. As will be seen later, there have been two major trends in the transformational account of the category : one advocating the use of an adjective in the underlying structure and the derivation of the corresponding adverb from it; the other analysis rejecting the underlying adjective and promoting the use of the adverb as a lexical category in the base rules. Both approaches deal exclusively with English adverbs. However, their review will help us understand the complexities of the morphological structures and the syntactic behaviour of adverbs in general. Besides, after the survey of the two analyses we shall briefly comment on the plausibility of applying them to Russian adverbs. In so doing we shall assess the appropriateness and usefulness of generative and generative semantic treatments with respect to the Russian adverbial system.

Derived Adverbs

The general thesis of the first transformational account is that adverbs originate from deep structure sources similar to those available in structures which do not contain adverbs. At the basis of this kind of obligatory adjectival paraphrase of each adverb at the deep structure lies the claim that adjectives and related adverbs share many selectional properties. Therefore, adverbs must be reduced to adjectives so that selectional restrictions need not be stated twice.

In early transformational grammar the lack of syntactic features forced the subdivision of major categories into several subclasses via phrase structure rules. Although this shortcoming was rectified by the introduction of features in Chomsky (1965), different adverbs still continued to be treated as distinct elements in phrase structures.

When adverbs came to be transformationally derived from adjectives, the deep-structure adjective corresponding to an adverb was listed in the lexicon as optionally undergoing a transformational rule which was peculiar to it (or to a small number of adjectives of the same class). For example, in the following sentences :

Frankly, there is no reason for it.

Truthfully, this car is a piece of junk.

Honestly, I never counted on their help.

the adjectival paraphrases have the form:

I am being frank/truthful/honest in telling you that ....

Due to this similarity in their syntactic structure the above three adjectives are classified into one group and are marked in the lexicon as undergoing a transformational rule which will destroy the dominant main clause and insert the lexical adverb into the lower clause.

However, this approach raised many questions. One of the first observations was that not all adverbs have adjectival paraphrases. E.g., The men were individually asked to leave can not be paraphrased into :

* It was individual that the men were asked to leave.

* The manner in which the men were asked to leave was individual.

A second problem was that the structures of adjectival paraphrases can be extremely varied and therefore require a large number of transformations for each tiny class of adverbs, each with its own exception features. This results in a third problem : very different underlying structures for similar adverbials. For example, the sentences :

John drives the car carelessly.

John dresses elegantly.

Stanley easily won the race.

are paraphrased as :

John is careless at driving his car.

The manner in which John dresses is elegant.

It was easy for Stanley to win the race.

The acceptance of such disperate underlying structures for very similar surface adverbs adds unnecessary complications to the grammar.

Another problem with this approach is that there exists a class of verbs that in certain contexts necessarily take adverbials. E.g.,

John worded the letter carefully.

? John worded the letter.

The job paid us handsomely.

? The job paid us.

Steve dresses elegantly.

? Steve dresses.

In the above set, the sentences without adverbs are either logically unacceptable or acceptable only in a very limited context. The transformational theory does not account for such sentences where the phrase without an adverb cannot be used (or is only marginally possible) as an underlying structure.

Semantic Interpretive Approach

Aknowledging the above problems, R. Jackendoff (1972) challenged the derivation of adverbs from underlying structures not containing the adverb via associated transformational rules. His argument against this approach is that the extremely varied nature of the syntactic and semantic roles of adverbs gives rise to a need for transformations that are very diverse in nature, leading to significant complications of the grammar. The only motivation for a transformational derivation, according to Jackendoff, is to capture some similarities in cooccurence restrictions between adverbs and related adjectives. However, in capturing these similarities, as we have already noted, taxonomically very similar adverbs are forced to be represented by very different underlying structures. The only advantage of the transformational treatment of adverbs, in Jackendoff's opinion, is that the base rules and lexicon are simplified by the elimination of the category of adverbs.

In order to bring uniformity to the treatment of various types of adverbs Jackendoff proposes that all adverbs be introduced in the base. However, he is cognizant of the fact that he is less successful in achieving uniformity in the determination of their surface positions, some of which need to be established by derivation and some via transformations. The semantic interpretations of various types of adverbs are formalized in corresponding semantic structures and projection rules, which relate the syntactic structures of sentences containing adverbs to the appropriate semantic structures. The overall picture of Jackendoff's grammar can be sketched as below :

Syntactic Component; consisting of
Base Rules & Transformational Rules
Semantic Component; Consisting of
Projection Rules
Syntacto-semantic Component, consisting of
Functional Structures
Lexicon

The relation between these components can be shown diagramınatically as :

Base rule

<----- Lexical insertion

Projection rule

Functional structure

<----- Transformational rule

Surface structure

As applied to adverbs, the category is generated in the base and the lexical item is picked up from the lexicon and attached directly under the category node. Each adverb is marked in the lexicon for its corresponding projection rule, which takes both the adverb and its syntactic position to produce functional structure. The surface position of the adverb is, if necessary, obtained on the application of a transformational rule.

Jackendoff's Taxonomy of Adverbs

Among the more specific proposals in Jackendoff`s interpretive semantic treatment we find - **ly** adverbs classified into various groups depending on the positions they can occupy in the sentence.

Group 1)

This class can occupy any of the three positions : initial, final without any intervening pause, or the auxiliary position that is between the subject and the main verb. However, the adverb changes in meaning with change in position. E.g.,

John cleverly dropped his cup of coffee.

Cleverly, John dropped his cup of coffee.

John dropped his cup of coffee cleverly.

Group 2)

These adverbs can occupy all three positions without changing the meaning of the sentence. E.g.,

Quickly, John ran into the garage.

John quickly ran into the garage.

John ran into the garage quickly.

Group 3)

These adverbs can occur only in the initial and the auxiliary positions. E.g.,

Evidently, Horatio has lost his mind.

Horatio has evidently lost his mind.

* Horatio has lost his mind evidently.

Group 4)

Members of this class can occur only in the auxiliary or the final positions. E.g.,

Stanley completely ate his wheaties.

Stanley ate his wheaties completely.

* Completely, Stanley ate his wheaties.

Group 5)

Some adverbs, typically non **-ly,** occur only finally. E.g.,

John hit Bill hard.

* John hard hit Bill.

The above breakdown of adverbs on the basis of their position is very important for the further development of Jackendoff's grammar. The surface position of an adverb determines the base rule with which it should be associated. Also, a strong association is shown to exist between the semantics of an adverb and its place in the sentence, and this in turn decides which projection rule can apply to it. Depending on the surface positions of adverbs the author suggests the use of three different base rules. At this point the important fact must be noted that although Jackendoff rejects the notion of a deep structure adjective for every adverb on the grounds mentioned earlier, he accepts the fact that verbs and their nominalizations behave alike in many ways, and that adverbs modify verbs in much the same way as adjectives modify nouns. This leads him to use base rules and transformational schemata to relate them syntactically.

Base Rules

The intuition that adverbs are related to sentences or VPs as adjectives are to nouns is supported by their surface positions : adjectives in noun phrases are located between the determiner and the head, exactly parallel to the auxiliary position of adverbs in verb phrases. As a result, to capture the similarities between adjectives and adverbs, auxiliary position is considered underlying for **-ly** adverbs and the following base rules are proposed (where :

X = Set of syntactic features common to noun and verbs;

the Feature [+/- Verb] distinguishes nouns from verbs,

and [+/- Adv] distinguishes adverbs from adjectives;

Y = Set of syntactic features common to adjectives and adverbs) :

Preverbal ***-ly*** *Adverbs*

N -> (Adj) - N - Complement

V (=VP) -> (Adv) -V - Complement

These two rules are collapsed into one.

$$\begin{bmatrix} X \\ \alpha\ \text{Verb} \end{bmatrix} \rightarrow \begin{bmatrix} Y \\ \alpha\ \text{Adverb} \end{bmatrix}$$

Thus the choice of auxiliary position for adverbs lets us derive adjectives in noun phrase at no extra cost to the syntax.

Sentence Final non ***-ly*** *adverbs*

To generate sentence final **non-ly** adverbs in *group 5)* Jackendoff adopts Klima's base rule for final adverbs such as *hard, before, early* and so on (1964). These adverbs were analyzed by Klima as intransitive prepositional phrases which are generated by the base in the same positions as normal prepositional phrases. His evidence for the above analysis is that these adverbs often substitute semantically for prepositional phrases. E.g.,

Tommy did not do such amusing things by himself.

Tommy did not do such amusing things before.

In addition, many such adverbs can act as normal prepositional phrases. E.g., Johnny ran into the house.

Johnny ran fast.

These peculiarities of sentence final adverbs motivated Klima to include in the base rule for prepositional phrases an optional NP following the head which would allow the generation of adverbs in the final position. E.g.,

PP -> P - (NP)

Post Verbal -ly Adverbs

A number of cases have been noted by Jackendoff where a verb obligatorily takes an adverbial which, if it is a **-ly** adverb, is necessarily in post verbal position. E.g.,

The job paid us handsomely.

John worded the letter carefully.

For such cases the author suggests the strict subcategorization of the verb for an adverb and proposes the use of the following base rule for VP with some extension :

$$\mathrm{VP} \dashrightarrow (\mathrm{Adv})\ \ \mathrm{V}\ \ (\ \mathrm{NP}\ (\ \left\{ \begin{matrix} \mathrm{PP} \\ \mathrm{Adv} \end{matrix} \right\}^{*})\ )$$

Sentence Initial -ly Adverbs

Adverbs in initial position are derived transformationally from the base rule already stated for preverbal adverbs via a preposing transformation. The reason for the preposing transformation is that adverbs do not always occur in initial position in subordinate clauses or in some prepositional phrases. E.g.,

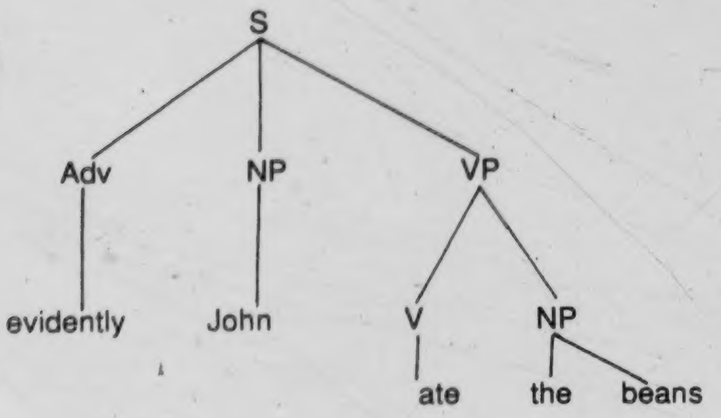
Evidently, Bob has disappeared

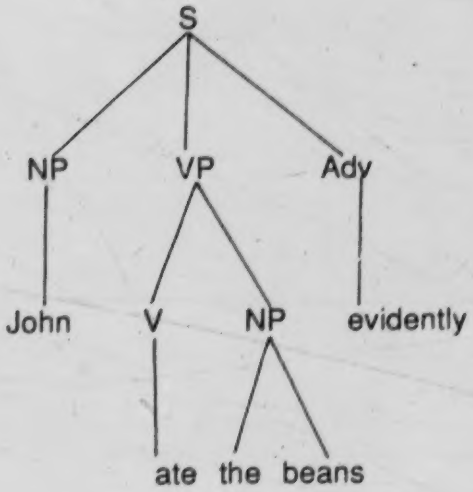
but not* George says that evidently Bob has disappeared elegantly.

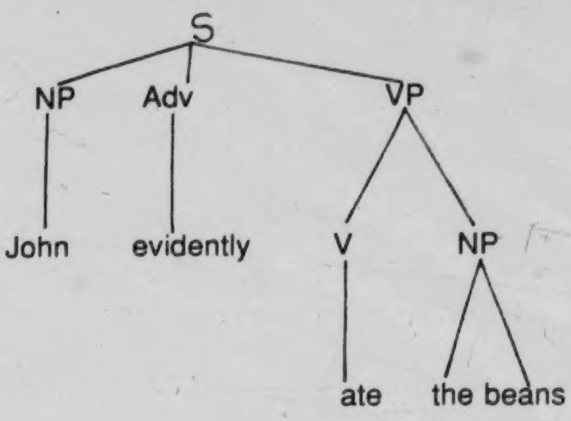
* Charlie was scared by stupidly Violet's driving the car off the cliff.

Surface Position of Adverbs

The position of all these adverbs is regulated by adopting the transportability convention. The convention states that the position in which adverbs occur corresponds to major syntactic breaks in the derived structure. One can express this by marking an adverbial constituent [+ transportable] and permitting it to occupy any position in the derived tree so long as a sister relationship with other nodes in the tree is maintained, i.e. as long as it continues to be dominated by the same node. Thus in English, **-ly** adverbs are transportable and those which are dominated by S, can occur initially, finally or before the auxiliary. E.g.,


S
Adv
NP
VP
evidently
John
V
NP
ate
the
beans


S
NP
VP
Adv
John
V
NP
evidently
ate
the
beans



Other **-ly** adverbs are dominated by VP and occur before the verb, finally without a pause and at various intermediate positions within the VP. E.g.,

John will send the money immediately back to the girl.

John will send the money back to the girl immediately.

John will immediately send the money back to the girl.

Semantic Interpretation

So far we have been discussing the syntactic frame set up by Jackendoff for studing the semantics of the adverbs. These syntactic structures are supplemented by semantic structures which underlie various interpretations of adverbs. The semantic structures are further related to the appropriate adverbs with the help of projection rules such as P_{manner}, $P_{speaker}$ for which every adverb is marked in the lexicon. It is evident from these rules that the author wants to use the semantic structures of adjectival paraphrases to help establish plausible structures for the corresponding adverbial constructions. Let us examine some of these semantic structures designed by the author.

Semantic Structures

Jackendoff's semantic structures employ the following symbols.

S = sentence containing a nonstrictly subcategorized adverb.

f(NP1- NPn) = Functional structure of the sentence, i.e., the relation between V and its strictly subcategorized arguments Subject, Object etc.

S' = Sentence when Adv is removed.

Adj = Adjectival counterpart of Adv.

ADJ = Semantic content of Adj.

The semantic structure of sentences containing adverbs is shown to fall into several major types depending on the lexical meaning of the adverb, its syntactic properties and the syntactic structure of its paraphrase. Since adverbs show varied semantic and syntactic bonds with other constituents, it is obvious that there are different semantic structures (formulae) depicting this kind of diversity in adverbial modification.

Let us explain the nature of these structures with the help of some neutral as well as speaker-oriented adverbs. In the sentence cited below the adverb is assigned the following structure representing the relations between various constituents of the sentence.

Evidently, Frank is avoiding us.

ADJ (Speaker, f (NP1-NPn))

The semantics of the Adjective (the speaker's state of mind, the relation between Verb & its arguments such as Subject and Object.) I.e.,

It is evident, (to me, is avoiding (Frank us))

which is nothing but the formula for the adjectival paraphrase of the sentence containing the adverb *evidently*.

It is evident to me that Frank is avoiding us.

Sentences in which the adjectival paraphrase of the adverb does not mention the speaker are assigned a slightly different structure, e.g.,

Certainly, Frank is avoiding us.

will have the formula :

ADJ (f (NP1-NPn)

certainly (is avoiding (Frank us))

This formula corresponds to the paraphrase :

It is certain that Frank is avoiding us.

Subject-oriented adverbs (evaluative manner adverbs) are a second major type with members showing the following semantic structure.

ADJ (NPi, f (NP1-NPn)) where $1<i<n$

The formula is used in the semantic interpretation of sentences containing an adverb *oriented toward the subject*. Paraphrases of these structures show the following syntactic structures :

John was clumsy to spill the beans.

It was clumsy of John to spill the beans.

John was clumsy in spilling the beans.

These sentences fit into the above formula in the following manner :

Adj (NPi f(NP1- NPn)

clumsy (John, spill (John beans))

Thus the NP1 of S is also repeated in the adjectival main clause.

A third semantic structure is needed for adverbs of *manner*.

degree and time. Their paraphrases obligatorily contain a S' plus a prepositional phrase, e.g.,

The manner in which Dave speaks is eloquent.

f (NP1-NPn)

Adv

The times at which Bob walks his pet giraffe are infrequent.

The extent to which Ted ate his wheaties was complete.

As mentioned earlier, each of the above semantic structures is accompanied by a projection rule such as P_{manner} or $P_{speaker}$ which embeds information about the functional structure of the sentence containing the adverb.

Projection Rules

Let us state in brief with the help of the adverb *certainly* how a projection rule works in the following sentence :

Certainly, John is avoiding us.

Certainly, as seen earlier, is a speaker oriented adverb that takes the whole sentence as its argument. As a result, the $P_{speaker}$ rule will apply to it. This rule is formulated as :

If F (Adv) is a daughter of S, then embed the reading of S as an argument of the F (Adv).

The projection rule has associated with it the following semantic structure, which was seen above to underlie *certainly*.

ADJ (f (NP1 - NP2)

Since *certainly* is a sentence adverb, in the phrase tree it is dominated by the node S. Therefore, according to the above rule the whole sentence becomes its argument. Thus with the help of the $P_{speaker}$ rule we get the right scope of the adverb in the given position.

The different structural descriptions for semantics of adverbs are used by the author to account for the distributional differences between the adverb classes. Thus $P_{speaker}$ and $P_{subject}$ apply to adverbs in initial and auxiliary positions. E.g. if *evidently*, which is a speaker oriented adverb, occurs in final position as in *John walked in evidently* only P_{manner} will be applicable.

As for Russian adverbs, there is no notable work that approaches adverbs from generative transformational point of view.

However, it is not difficult to see that if they are to be analyzed within the transformational framework, one will encounter the same problems as in English. For example, the extreme diversity of deep structures for semantically and structurally similar adverbs poses a serious problem in Russian also. Observe the following sentences containing manner adverbs ending in **-o.**

On soglasitsja bezuslovno.

He will agree unconditionally.

On bystro odelsja.

He quickly dressed.

The adjectival paraphrases of the above two adverbial constructions would be as follows.

On soglasitsja bez vsjakix uslovii.

He will agree without any conditions.

On odelsja bystrym obrazom.

He dressed up in a quick manner.

In some cases, the manner of action is expressed with an instrumental case. But some of these adverbials take a preposition while others occur without it. E.g.,

Dver' otkrylas' so skripom.

The door opened with a creak.

Kraska opryskivaetsja rovnym sloem.

The paint sprays evenly.

Thus all these adverbs need very different underlying structures with disparate transformations that are unique to the tiny group to which they belong. Besides, as in English, not all adverbs take adjectives in their underlying structure. Observe the following.

On odevalsja tëplo.

He dressed warmly.

The above Russian sentence can not be paraphrased into :

On odevalsja tëplym obrazom.

He dressed in a warm manner.

The problem of the heterogeneity of transformational rules coupled with the problem of lack of adjectival paraphrases is intensified in case of attitudinal and epistemic modal adverbs. These are characterized by the extreme diversity of their surface morphology. Compare the following structures.

Net somnenija, on durak.

Undoubtedly, he is a fool.

On, bez vsjakogo somnenija, durak.

No doubt, he is a fool.

Mama, k moemu udivleniju, soglasilas' poexat' so mnoj na jug.

To my surprise, mother agreed to go with me to south.

Ironiej sud'by, Ivana ne prinjali v aspiranturu.

Ironically, Ivan was not admitted into Graduate Studies.

All adverbs in the above set are sentence modifiers expressing either the speaker's subjective attitude toward the proposition or the probability of its occurence. However, their paraphrases that could be used at the deep level are very diverse and none of them take an adjective.

Ne suščestvuet somnenija, čto on durak.

Ja dumaju bez vsjakogo somnenija, čto on durak.

Ja udivljajus', čto mama soglasilas' poexat' so mnoj na jug.

Èto ironija sud'by, čto Ivana ne prinjali v aspiranturu.

We believe that the above examples vividly illustrate the problems involved in the generative treatment of Russian adverbs.

Summary

In this chapter we reviewed two formal approaches adopted for the explanation of the place of adverbs in syntax as well as to account for their semantics. The first approach was a generative transformational account of the category which pays special attention to the overlap in cooccurrence restrictions between adverbs and related adjectives.

In this theory adverbs are treated only as a surface structure category and not mentioned at the deep structure level. Instead, they are transformationally derived from deep structure paraphrases containing lexically related adjectives. Syntactically distinct adjectival structures account for different semantic classes of adverbs. Yet the necessity of adjectival paraphrases results sometimes in very diverse deep structures for morphologically and semantically similar adverbs.

The other approach discussed in this chapter is developed by Jackendoff, who analyzes adverbs within an interpretive semantic framework, deriving them in the base and thereby making them a deep structure category. He rejects the idea of treating various semantic classes of adverbs as syntactically distinct (other than in the positions they occupy). His justification of this objection is drawn from the parallel observation that adjectives are not syntactically classified into adjectives of color, length etc. The derivation of adverbs from related adjectives is also objected to on the grounds that not all adverbs have adjectival paraphrases and when they do exist they have extremely disparate syntactic structures. In order to bring uniformity to the treatment of various types of adverbs and also to account for strong similarities between the cooccurence properties of adjectives and related adverbs, the author explicitly classifies the latter on the basis of their position in the sentence. The relation between the modificatory function of adverbs and their placement is accounted for with the help of various projection rules which predict the semantic and functional structure of an adverb from its position.

Within Jackendoff's treatment of the category the derivation of adverbs is made uniform across different types of adverbs by generating them all in the base. This in turn enables the grammar to dispense with the classification of adverbs into extremely diverse classes. His taxonomy of adverbs is instead based on their position in the sentence and successfully draws our attention to the very important correlation between the position of an adverb, its syntactic structure and its semantics. This correlation shows a pattern which proves to be too regular to be ignored. It is evident that although the major concern of this theory is to give base rules and projection rules which can respectively generate as many adverbs as possible and interpret them semantically, a considerable amount of emphasis is placed on the association between the semantic interpretation of a given adverb and its position in a sentence.

Since the interpretive semantic analysis introduces adverbs in the base, thus eliminating the problem of disparate transformations for similar adverbs, it can be more successfully applied to Russian adverbial system. Five positional subdivisions of adverbs proposed by Jackendoff can be shown valid for Russian adverbs also. Thus bespecno (carelessly), xitro (shrewdly) can belong to the first group whose members can occur in sentence initial, medial, as well as final positions but while doing so change the meaning of the sentence.

Bespečno, Dima porezal tort.

Carelessly, Dima cut the cake.

Dima bespečno porezal tort.

Dima porezal tort bespečno.

Dima cut the cake carelessly.

Srazu (immediately), bystro (quickly) belong to the second group whose members occupy any position in the sentence without changing its meaning. E.g.,

Bystro, vse vyšli v korridor.

Quickly, all went out into the corridor.

Vse bystro vyšli v korridor.

Vse vyšli na korridor bystro.

Such epistemic adverbs as po-vidimomu (apparently), naverno (probably) fall into the third group. Adverbs in this group can occur only sentence initially or medially. E.g.,

Po-vidimomu, on s uma sošël.

On, po-vidimomu, s uma sošël.

Apparently he has lost his mind.

* On s uma sošël po vidimomu.

Adverbs such as polnost'ju (completely) which can not occur in sentence initial position fall into the fourth class. E.g.,

Polnost'ju, deti s"eli arbuz.

However, Jackendoff's fifth class of sentence final adverbs does not seem to have a corresponding Russian class since such adverbs as rano (early) , silno (hard) can occur preverbally as well as in sentence final position. E.g.,

Vse vstali rano.

Everybody got up early.

Vse rano vstali i pošli poguljat'.

All got up early and went for a walk.

Jackendoff's semantic functional structures also can be applied to Russian. This can be explained by the fact that they deal with such aspects of adverbial semantics as modificatory domains, and orientation which are relevant across all languages. The same can be said about the projection rules which simply embed the information about the functional structure of each adverb.

The study of the influence of the placement of an adverb on its meaning and function undergoes further development in subsequent so-called *logical approaches*. Here the main objective is the use of intentional and first order logic to explain the semantic readings, relations and scope boundaries of adverbs, which in turn is seen to be a function of their position in a given sentence. A study of the major works adopting logical formulae to explain adverbial behaviour is the objective of the next chapter.

IV. ADVERBS AND LOGIC

In this chapter we shall review three works which adopted a logical approach to explain differences in modificational domains of various adverbs. The proponents of the new logical analysis, which takes as its point of departure the definition of the scope of adverbs with the help of first order predicate logic, are R. Thomason (1970), R. Stalnaker (1970a), G. Lakoff (1973) and many others. They all claim that this theory provides the logical criteria necessary to distinguish between adverbs that modify a predicate and those that modify a whole sentence. The criteria thus proposed are mainly based on truth value relationships between sentences containing the adverb under investigation, including the effect of change in position of the adverb on its scope as witnessed earlier in the work by Jackendoff. All these works base their investigation on English adverbs. However, we shall also apply the tests proposed in them to Russian data to see if their criteria hold also for this language.

Thomason & Stalnaker's Analysis

Thomason and Stalnaker (1973) account for the distinction between predicate and sentential adverbs with the four special semantic principles :

1) Only if an adverb is a sentence modifier can it give rise to opaque contexts everywhere in a sentence in which it occurs. *Opacity of context* is defined as the impossibility of substitution of NPs in the given context without rendering a logically invalid statement (1973 : 204). For example,

   a) On a number of occasions a president of the United States has died in office.

   b) On a number of occasions Richard Nixon has died in office.

In the above pair of sentences the replacement of the noun phrase *president of U.S.* in a) with the noun phrase *Richard Nixon* in b) renders a logically false statement. As a result, the adverbial phrase *on a number of occasions* is considered to give rise to an opaque context that resists the substitution of elements in a sentence and is called a sentence modifier. Other modal adverbs like *fortunately, probably, necessarily*, as per this criterion, also clearly qualify as sentence modifiers.

This criterion has a number of practical limitations. First, in order to be sure that it is the adverb that is being tested for the substitution failure, one should find a sentence that has no opaque contexts if the adverb is removed. Secondly, in order to be sure that the adverb is giving opaque contexts everywhere in the sentence (i.e no NP can be replaced), one should find a sentence with all its NPs in an opaque context created by the adverb. Otherwise the NPs that are outside the scope of the adverb can be easily replaced without rendering an unacceptable sentence.

Another problem with this criterion is that adverbs like *willingly* clearly refer to the predicate of a sentence and yet also create opaque contexts when the substitution of their object NPs is made. E.g.,

a) John willingly trusted Mary.

b) John willingly trusted his worst enemy.

The sentence a) can be true when b) is necessarily false. As a result this criteria can not be taken as a sufficient marker of the sentence modifier.

In order to further clarify the distinction between sentence and predicate modifiers three additional criteria were proposed (1973 : 205)

2) Only sentence modifiers can give rise to quantifier scope ambiguities in simple universal or existential sentences. (Simple universal or existential sentences are defined as those containing only one quantifier and no singular term.

Thus a sentence with a quantifier within a logical predicate such as *He sliced all the bagels carefully* is not a universal or existential sentence.)

An example of a sentence modifier giving rise to quantifier scope ambiguities is :

a) Frequently, someone got drunk.

b) Someone got frequently drunk.

Because the adverb in the above sentences shows two different scopes, modifying either the predicate or the whole sentence, it is defined as a sentence modifier. That is, the two sentences show different semantic readings.

a) Frequently, someone or other got drunk. (sentence modifier)

b) Some particular individual got drunk frequently. (predicate modifier)

This criterion again fails to include some adverbs that have been previously considered sentence modifiers but do not give rise to two different semantic readings. The example cited by the authors in support of this view contains two sentences with *actually* that are believed to have identical semantics.

a) Actually, someone got drunk.

b) Someone actually got drunk.

(It will be shown later that the two sentences are not semantically identical, but serve two different pragmatic functions with respect to the previous discourse.) The proposed solution is a third criterion :

3) If an adverb includes within its scope another adverb or adverbial phrase that has already been shown to be a sentence modifier, and if the whole rest of the sentence is within the scope of that sentence modifier, then the original adverb is also a sentence modifier (p. 206).

In order to clarify the above criterion the authors make use of a conditional clause which is shown to be an adverbial sentence modifier by criterion 1. If a conditional sentence begins with another adverb, and if one can not paraphrase the sentence by putting the adverb in the consequent, then there is reason to conclude that the initial adverb modifies the succeeding sentence. E.g.,

a) Frequently, if John walked to school, Mary walked with him too.

b) If John walked to school, frequently Mary walked with him too.

Predicate modifiers do not allow such paraphrases. E.g.,

c) If John walked, Mary slowly walked with him too.

d) Slowly, if John walked, Mary walked too.

The last test for distinguishing the two types of adverbs is :

4). Only sentence modifying **-ly** adverbs allow their deletion and paraphrase into the construction *It is -ly true that*......(p. 207). E.g.,

a) Frequently, Sam visits his uncle in Paris.

b) It is frequently true that Sam visits his uncle in Paris.

Some Modifications

The criteria proposed by Stalnaker and Thomason as acid tests for sentence modifying adverbs were later modified or elaborated on by Stalnaker himself in his " Notes on adverbs in response to Thomason and Lakoff" (1970a). The second and fourth criteria involving quantifier scope and paraphrase as well as the third were retained in their original form. But the opacity criterion was restructured as :

1') Only a sentence modifier can give rise to opaque context in the subject position.

The above claim is purportedly justified by taking a *predicate* *modifier* which gives no opaque context in the subject position. E.g.,

a) Oedipus carelessly married Jocasta.

b) Jocasta's son carelessly married her.

The sentences a) and b) have the same truth condition. Thus a predicate modifier does not give rise to opaque context in the subject position. Now let us see how a sentence modifier behaves in this situation.

a') Carelessly, Oedipus married Jocasta.

b') Carelessly, Jocasta's son married her.

The two sentences do not have identical truth conditions. In a) the carelessness is presumed to be a subjective evaluation of the situation on part of the speaker. In b), on the other hand, Stalnaker assumes that the carelessness is imparted to Jocasta`s son. Thus only a sentence modifier gives opaque context in the subject position.

The above modification of the opacity criterion which restricts it's application only to the subject position is very crucial since, as we saw earlier, a sentence modifier does not give opaque context in object position. In support of this statement we can cite additional sentences showing no opacity in object position.

Carelessly, Oedipus married Jocasta.

Carelessly, Oedipus married his mother.

For further clarification of the distinction between the two types of adverbs another criterion is proposed.

5) Only sentence modifying adverbs can occur at the beginning of a complex sentence (in the non-technical sense) whose constituent clauses have different subjects. E.g.,

Frequently, on weekends, Sam visited his parents on the farm and Sally stayed home.

(Complex sentences apparently include only those with conjunctions, disjunctions and *if-then* constructions but not relative clauses or complements.)

In summary, the four modified criteria of Stalnaker and Thomason which distinguish sentence modifiers from predicate modifiers are :

1) Sentence modifiers give rise to an opaque context in the subject position while predicate modifiers are transparant with respect to the subject NP.

2) Only sentence modifiers give rise to quantifier scope ambiguities in simple universal or existential sentences.

3) Only sentence modifying **-ly** adverbs have the paraphrase *It is -ly true that..........*

4) Only sentence modifying adverbs can occur at the beginning of a complex sentence whose constituent clauses have different subjects.

Now, if we apply the above tests to Russian adverbs it can be seen that they are valid for Russian too. Observe the following.

Criterion 1)

Obyčno, aspiranty na ètoj kafedre polučajut doktorskij diplom za 4 goda.

Usually, graduate students in this department get their doctoral degree in four years.

* Obyčno, Ivan na ètoj kafedre polučaet doktorskij diplom za 4 goda.

Criterion 2)

Vsegda, kto-to poterjal ključi.

This can mean

Always, somebody lost the keys. Or

Somebody always lost the keys.

Criterion 3)

Obyčno, Ivana net v komnate.

Usually, Ivan is not in the room.

can be paraphrased as

> Èto obyčno verno/pravda, čto Ivana net v komnate.

Criterion 4)

> Inogda, po voskresenijam, muž poezžal k roditeljam v derevnju, a žena ostavalas' doma.
>
> Sometimes, on Sundays, the husband visited his parents in the country and the wife stayed home.

Thus these criteria, although designed to distinguish sentence and predicate modifiers in English, are also applicable to Russian adverbs. The reason is that they refer to the modificational domains of adverbs which are relevant to adverbial systems in general.

However, criticism was raised against some of these criteria by G. Lakoff.

G. Lakoff's Criticism

Stalnaker's first two criteria involving scope ambiguity and opacity in subject position were challenged by Lakoff (1973) on the grounds that the notion of subject is wrongly treated by the author as though it were a single grammatical concept. He claims that there is a clear distinction between underlying subjects and derived subjects. If this is recognized, then Stalnaker's opacity and quantifier scope ambiguity rules apply *only to underlying* subjects and *not to derived* ones.

However, instead of giving the examples of *sentence modifiers* showing opacity and quantifier scope ambiguity in *underlying subject position*, Lakoff attempts to support his point by furnishing examples of *predicate modifiers* showing *no opacity and no quantifier scope ambiguity in the underlying subject position.* The examples cited are :

Predicate modifier showing no quantifier scope ambiguity :

a) The bagel was carelessly spat on by all the men.

a') The bagel was spat on by all the men carelessly.

Predicate modifier showing no opacity in underlying subject:

b) Jocasta was carelessly married by her son.

b') Jocasta was carelessly married by Oedipus.

The sentences a') and b') in the above sets have the same truth conditions as that of a) and b) respectively, and thus do not render any opaque contexts. On the basis of the above observations Lakoff suggests that Stalnaker's first criterion pertaining to the opacity of sentence modifiers in the *subject position* should be rephrased to emphasize underlying subject position.

Predicate Modifiers and Modal Operators

One of the major claims of the logicians' account of adverbs is the thesis made by Thomason (1970) in which he defines adverbs as operators mapping propositional functions into propositional functions. The term *adverb* is used by him to designate only *predicate modifiers* such as *slowly, at 10 0' clock* and so on. Thomason felt a further need to distinguish predicate modifiers from modal operators such as *willingly, probably* and so on. He suggested the following six criteria which mark off predicate modifiers from modal operators. Again, we shall illustrate that these criteria can be easily applied to Russian adverbs.

1) Predicate modifiers do not take embedded negatives while modal operators can. E.g.,

   * John slowly did not run. (predicate modifier)
   John probably did not run. (modal operator)

   * Ivan bystro ne čital ètoj knigi.
   Ivan, naverno, ne čital ètoj knigi.

2) Predicate modifiers do not form referentially opaque

contexts but modal operators do. E.g.,

He called Sally at 10 and told her about the accident.

At 10 he called Sally and told her about the accident.

Probably, he called Sally and told her about the accident.

* He called Sally probably and told her about the accident.

Papa vernulsja v devjat' i srazu pošël spat'.

V devjat' papa vernulsja i srazu pošël spat'.

Dad came back at nine and immediately went to bed.

* Papa vernulsja naverno i spit.

Dad came back probably and is sleeping.

3) $f(p \wedge q) = f(p) \wedge f(q)$ where f = **predicate modifier** and p & q are propositions under its scope. E.g.,

Martha continuously danced or sang = Martha continuously danced or Martha continuously sang.

Willingly, Martha danced or sang ≠ Willingly, Martha danced or willingly Martha sang.

Novyj student vse vremja žalovalsja ili pil.

The new student all the time complained or drank =

Student vse vremja žalovalsja ili vse vremja pil. But

Verojatno, Kolja žalovalsja ili pil ≠ Kolja verojatno žalovalsja ili Kolja verojatno pil.

4) If $f(p)(d)(\alpha) = T$ then $p(d)(\alpha) = T$. E.g.,

If John walks slowly, then John walks.

* John probably helps all the girls in his class, then John helps all the girls in the class.

Volodja silno udaril brata = Volodja udaril brata.

Volodja hit the brother hard = Volodja hit the brother.

Volodja naverno zaščetilsja ≠ Volodja zaščetilsja.

Volodja probably defended ≠ Volodja defended.

5) $fg(p) = gf(p)$ E.g.,

Tom hit Harry in the yard with a hammer = Tom hit Harry with a hammer in the yard.

Tom probably willingly hit Harry = Tom willingly probably hit Harry.

Maša v kuxne pela vysokim golosom = Maša vysokim golosom pela v kuxne.

In the kitchen Masha was singing in high voice = Masha was singing in high voice in the kitchen.

Deti naverno poslušno pošli spat' ≠ deti poslušno naverno pošli spat'

The children, probably without any grumbling, went to bed ≠ The children without any grumbling probably went to bed.

Lakoff's Criticism of Thomason

Lakoff in his response to Thomason rejects his analysis of adverbs as operators and proposes that certain predicate adverbs such as *willingly, carefully* are two place modifiers. In his view, they take as their arguments in logical structure an individual variable and a propositional function containing that individual variable, thus denoting the relation between an individual and an act. Therefore, unlike other adverbials such as *with a knife, possibly,* they give rise to scope ambiguities and opacity in every place in the sentence. E.g.,

a) With a knife he sliced all the bagels.

b) He sliced all the bagels with a knife.

Both sentences in the above set can be paraphrased as :

He used a knife to slice all the bagels.

This contrasts with the following set a') and b') which have different paraphrases revealing the scope ambiguity of the adverb *carelessly*.

a') Carelessly, he sliced all the bagels.

will be paraphrased as :

Instead of slicing only few, he carelessly sliced all 1the bagels.

The sentence

b') He sliced all the bagels carelessly.

will have the paraphrase

He sliced all the bagels in a careless manner.

Example of opacity is:

c) John willingly trusted Mary

d) John willingly trusted his worst enemy.

The replacement of the object NP in the above sentence (given Mary= his worst enemy) creates an opaque context, thereby rendering a logically false statement in d).

Lakoff also discusses in detail each of Thomason's criteria and claims that the inability of many adverbs to take embedded negatives is only a special case of a more general fact about these adverbs. Adverbs of manner, means, instrument do not take stative predicates and he views negation only as a special case of stative predication. E.g.,

* John terribly knew the answer.

* John cleverly did not know the answer.

* Džon strašno znal otvet.

John terribly knew the answer.

* Džon ostorožno ne vytaščil korobku.

John carefully did not take out the box.

The inability to take embedded negation is also shared by many predicates that take sentential complements. E.g.,

* Sam kept not trying to leave.

* Mama prodolžala ne starat'sja serdit'sja na syna.

Mother kept not trying to get mad at the son.

Thus in Lakoff's view the criterion of taking negatives does not seem appropriate in distinguishing between predicate and modal operators. However, one can challenge Lakoff's view about the criterion of taking negatives on the grounds that although it is a special case of a more general fact about manner or instrumental adverbs and although it can also apply to predicates taking sentential complements, the fact remains that it can still successfully distinguish between predicate modifiers and modal operators. Therefore, the criterion can still be used for distinctive purposes.

Thomason's opacity criterion (only sentence modifiers create opaque context in subject position) is also challenged by Lakoff on the basis of many apparently predicate adverbs that indicate the speaker's evaluation of the action (or the doer's state of mind) but still create opaque contexts. E.g.,

a) Oedipus gladly married Jocasta.

b) Oedipus gladly married his mother.

The sentence a) is certainly true while b) is necessarily false given that Jocasta is Oedipus's mother. Thus the opacity criterion is shown to hold true only for those adverbs that are independent of someone's attitude or judgement.

The implicational formula $f(p \wedge q) = f(p) \wedge (q)$ claimed to hold true for predicate modifiers is also shown to fail to hold for many adverbs which otherwise seem to fit the class. E.g.,

> John easily ate ten hamburgers and drank a gallon of beer.

does not necessarily entail that *John easily drank a gallon of beer*.

Besides, Lakoff claims that modal operators show a similar property. E.g.,

Sally wants to go home and sleep.

does not imply that Sally wants to go home and Sally wants to sleep.

Furthermore, the claim (crtiterion 4) that *John walks slowly implies John walks* also applies to certain modal operators such as:

Sam forced Sheila to go home. ==> Sheila went home.

and is therefore not an exclúsive property of predicate modifiers. The above example is more complicated in Russian because of the complex interaction between its tense and aspectual systems. Russian equivalent of the above sentence will be :

Sam zastavljal Šilu pojti domoj. (impf) Or

Sam zastavil Šilu pojti domoj. (perf)

In Russian the conclusion "Sheila went home" is possible only in the perfective construction. The imperfective structure can simply state the fact that Sam was forcing Sheila to go home without overtly implying its successful result. Thus Thomason's attempt to distinguish between predicate modifiers and modal operators is shown by Lakoff to be successful only for restricted data.

Summary

In this chapter we presented an outline of two important works which attempted to give a logical account of different modifying scopes of adverbs. In these treatments of the category a thesis was formulated by Thomason that certain adverbs such as *carefully, willingly, probably* are modal operators mapping propositional functions into propositional functions. The term adverb, on the other hand, is used only to refer to such predicate modifiers as *at 10 0' clock, with a knife* etc. The so-called predicate modifiers and modal operators are further distinguished on the basis of six logical criteria. However, the definition of some adverbs as modal operators and their distinction from predicate modifiers is challenged by Lakoff on the grounds that it works only for restricted data. Unlike such predicate modifiers as *at 10 0' clock, in the garden,* the adverbs *willingly, probably* etc. denote a two place relation between an individual and an act, and therefore, give rise to opacity and scope ambiguity in every place in the sentence.

The logical treatment of adverbs very accurately defines the functional domains of sentence and predicate adverbs, thereby revealing subtle differences in their semantic and structural properties which could not be explained by mere paraphrases. These differences pertain to such factors as the positions that they can occupy in a clause, their compatibility with the replaced subject and object NPs and so on. Since our aim in this work is to study the pragmatic properties of certain subdivisions of the above two types of adverbs, the contributions of logicians' account of adverbs prove to be very useful for a deeper understanding of the subject.

Although the proponents of the logical analysis based their study on English adverbs, they deal with such general notions as scope, modificational ambiguities and referential domains without being restricted to language specific morphological structures. As a result, we illustrated that their observations and claims are also valid for Russian adverbs.

The major thrust in all the works that have adopted a logical basis for the classification of adverbs has been their emphasis on the implicational properties of adverbs and contrasts in truth values between sentences that are modified by adverbial phrases. In applying first order logic to their taxonomies, the main concern is to define scope boundaries, thereby classifying them into sentence and predicate modifiers. However, this breakdown of adverbs into two groups on the basis of their scope operates strictly within the limits of a sentence. Such a classification, as noted by other linguists, gives no clues about how an adverb interacts with the discourse context.

As examined earlier in the first chapter the above inadequacy was addressed to certain extent in the taxonomy of adverbs proposed by Greenbaum. In the following chapter we shall again renew the discussion of adverbs from a pragmatic point of view. However, the major emphasis will be laid on the separate speech act embedded in some adverbs. We shall examine a work in which performative verbs are employed to represent the illocutionary force of adverbs. The use of performative verbs will be extended to Russian adverbs in order to reveal such complexities of adverbial modification as dual subjectivity in the use of adverbs and the imposition of assertive meaning when it is not called for.

V. PERFORMATIVE ANALYSIS OF ADVERBS

The logical analysis of adverbs outlined in the previous chapter sought to accurately define their functional domains within the sentence. However, such a treatment of the category proves to be somewhat artificial since it does not study the behaviour of its members in live discourse. The incorporation of discourse elements, to some extent, was observed in the breakdown of the adverbial category by Greenbaum whose study was included in the first chapter of this work. He categorizes all adverbs depending on their implicational relationship with adjacent sentences (1969). His classification treats adverbs as elements in the total structure of the discourse, and as a result, they are examined in terms of their role as the constituents of the whole communicative act. This functional taxonomy of adverbs stimulated interest in the pragmatic meanings of adverbs and further highlighted the need to study their behaviour with respect to the proposition they modify. Many authors began to investigate them in terms of their speech act function. Various linguists such as C. Corum (1974), P. Schreiber (1972),

J. Sadock (1969) employed Ross's performative theory (1970) in their accounts of these adverbs and made the claim that not only do their syntactic properties differ, but more importantly, they express an illocutionary force which is different from normal assertion. By the illocutionary force of an utterence is to be understood its status as a promise, a threat, a request, a statement, an exhortation, etc. (Lyons 1977 : 731).

In the present chapter we shall examine C. Corum's work which is representative of this new trend and attempts to prove the independent status of adverbs expressing illocutionary force (1974). We shall then proceed, on the basis of our Russian data, to discuss the merits and demerits of the performative account of adverbial function. In so doing we shall study the behaviour of adverbs in the setting of complex sentences in which subordinate clauses are modified by adverbs in the main clause. The study of adverbs in such a setting will shed some light on the problems associated with the performative analysis of the category. Now let us illustrate in brief how Corum tries to capture in her phrase trees the illocutionary force and subjectivity embedded in attitudinal adverbs.

C. Corum

That evaluative and attitudial adverbs have an illocutionary force different from that of the sentence they modify is illustrated by Corum with the help of two sentences, one containing an adverb and the other its adjectival paraphrase. E.g.,

It is fortunate that Burrows was elected.

Fortunately, Burrows was elected.

Although these two sentences could in some sense be considered semantically synonymous they are shown by the author to differ in illocutionary force. This difference becomes clear when we compare negative responses to the two sentences. The negation of the first sentence will have as its focus the adjectival paraphrase :

It is not fortunate that Burrows was elected.

This indicates that the whole sentence has only one illocutionary force-- that of assertion. In the second sentence the negation has the main sentence as its focus and yields the following proposition.

Fortunately, Burrows was not elected.

This propositional difference in the negative counterparts of semantically synonymous affirmative sentences indicates, according to the author, that the adverb *fortunately* has its own illocutionary force which is different from the assertion of the main sentence. When the adverb is paraphrased into its corresponding adjectival structure it loses its illocutionary force and takes that of the main statement.

Corum also takes into account the speaker's role in using an adverb. She points at the fact that in certain complex sentences the reason clause modifies the attitudinal adverb and not the proposition. E.g.,

Luckily, Matt won the election, because he can clean up crime in Dodge.

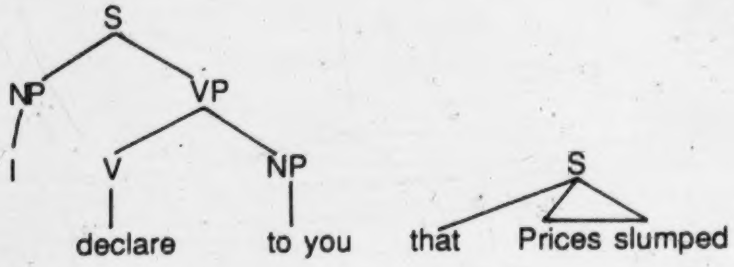
Surprisingly, Herbert won the match, because all the pros were convinced that he would not.

In order to represent this pragmatic meaning of "speaker's role" Corum adopts an analysis based on J. R. Ross's performative hypothesis :

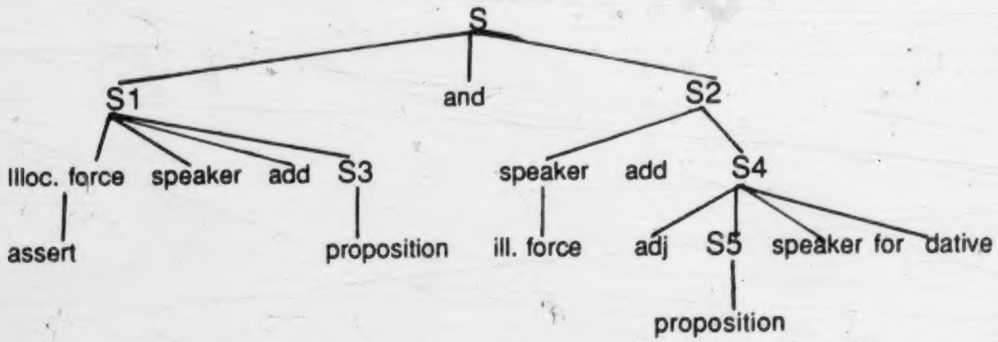
> Declarative sentences in their deep structures have a configuration where a declarative sentence is embedded as an object clause of a higher sentence with *I* as its subject and a performative verb like *say* with the features [+

performative + communication + declarative] (1970 : 224)

According to this hypothesis the simple sentence *Prices slumped* will have the underlying structure *I declare to you that prices slumped.*


S
NP
VP
I
V
NP
declare
to you
S
that
Prices slumped

Corum claims that sentences with evaluative adverbs contain two illocutionary forces, one for the adverb and a second underlying the main proposition. She therefore employs two performative verbs in deep structure, corresponding to the two different forces and an underlying conjoined structure relating the two clauses.


S
S1
and
S2
Illoc. force
speaker
add
S3
speaker
add
S4
assert
proposition
ill. force
adj
S5
speaker for
dative
proposition

In this structure the abstract clause introducing the illocutionary force of the adverb contains different verbs depending on the nature of the force expressed by the adverb. Also, the tree includes a node which represents the person to whom the attitude expressed in the adverb is attributed. The author is aware that the illocutionary force of such adverbs as *luckily, surprisingly* is not one of assertion. Therefore, some other verb suitable to their semantics needs to be inserted in place of the node *assert*. The deep level verbs suggested by her for the illocutionary force of the above two adverbs are either *judge* or *evaluate*. But she has no clues for the force of various other adverbs. We too shall not indulge in its discussion any further.

Here the fact must be emphasized that Corum is not the first to formally represent the speaker's subjective role in using an adverb. Similar attempts have been made earlier by Jackendoff in his semantic interpretive treatment of adverbs. In his grammar the person expressing the attitude in an adverb (e.g., *evidently*) is embedded in the following functional structure:

ADJ (speaker, f (NP1-NPn))

Evident (to me , S)

However, the above formula works only in those instances where the person making the statement is the same as the one who is expressing the attitude. In such Russian adverbs as *k ego udivleniju, k vseobščemu vosxiščeniju* where the person making the statement and the one developing the attitude are two different people, Jackendoff's formula is not applicable. Corum's representation of the speaker's subjectivity within the performative framework too has its own problems. The disadvantages are namely: a) the imposition of assertion in every instance, b) no account of potentially existing dual subjectivity, and finally, c) the impossibility of reference to various kinds of pragmatic factors involved in adverbial semantics and modification. We shall discuss each of these problems in detail but first we will have to explain a few structural and functional peculiarities of the behaviour of adverbs in complex sentences. We shall do that on the basis of a few Russian adverbs in our data.

Adverbs in Complex Sentences

As noted earlier by Corum in English, in the following complex sentences the subordinate clause is semantically governed not by the main clause but by the adverbial element. If it is an attitudinal adverb such as *k moemu udivleniju* (surprisingly, to my surprise), *k scast'ju* (fortunately) and so on, the subordinate clause gives the reason for expressing the attitude toward the main proposition. In such instances the reason clause modifies the whole underlying phrase expressing this attitude. When the adverb in the main clause is a pure manner adverb such as *nelovko* (clumsily), *ostorožno* (carefully), *pospešno* (hastily) and so on, that express an evaluation of the action, it is observed that the subordinate clause expresses the reason for the manner in which the action is performed. E.g.,

1) Nina bystro pisala èkzamen potomu, čto bojalas' opozdat' na samolët.

Nina wrote her exam hastily because she had to catch a plane.

2) Saša vzjal korobku ostorožno, tak kak v nej bylo steklo.

Sasha took the box carefully, because it contained glassware.

3) K sčast'ju, deti otkazalis' s nami poexat', potomu, čto ne dajut nam otdyxat'.

Fortunately, the children refused to go with us because they just don't let us relax.

In these sentences the subordinate clause is semantically associated with the adverb. This becomes readily apparent when the adverb is deleted. Compare 1, 2, 3 above with 1', 2', 3' below.

1') Nina pisala èkzamen potomu, čto bojalas' opozdat' na samolët.

Nina wrote her exam because she had to catch a plane.

2') Saša vzjal korobku, tak kak v nej bylo steklo.

Sasa took the box because it contained glasswear.

3') Deti otkazalis' s nami poexat', potomu, čto ne dajut nam otdyxat'.

The children refused to go with us because they just don't let us relax.

The structure *Nina pisala èkzamen potomu, čto bojalas' opozdat' na samolët.* (Nina wrote her exam because she had to catch a plane) is certainly grammatical and could occur in a context where, for example, all students were supposed to take the exam orally at a certain time. But Nina had to leave to catch the plane so she wrote the exam earlier. Similarly, the second sentence can be justified by providing suitable contexts. However, the validity of the third sentence is doubtful when the adverb in it is deleted.

Thus, when the reason subordinate clause is used without any head adverb it expresses a totally different proposition. This diversity in the semantic readings of the sentences with and without adverbs in the main clause can also be seen in the difference of implicational relations between the subordinate and the main clauses in the two variants :

a) Nina pisala èkzamen bystro potomu, čto bojalas' opazdat' na samolët.

Ona ne bojalas' opozdat' na samolët ==> Ona ne pisala èkzamen bystro

a') Nina pisala èkzamen potomu, čto bojalas' opozdat' na samolët.

Ona ne bojalas' opozdat' na samolët ==> Ona vobšče ne pisala èkzamen.

In some instances, however, the deletion of the adverb produces marginally grammatical structures since the reason in the subordinate clause is logically not relevant to the action expressed in the main verb. In such structures the adverb together with the subordinate clause form a semantic unit and the role of the adverb is to serve as the head node that governs the use of the reason clause. E.g.,

Student otvečal robko, potomu, čto ploxo znal otvet.

The student replied shyly because he did not know the answer well.

The omission of the adverb gives the following questionable statement :

? Student otvečal, potomu, čto ploxo znal otvet.

The student replied because did not know the answer.

Here if an interpretation were forced on the sentence, the implicational relation between the reason clause and the main verb would be :

? Student ne znal otveta ploxo ==> On ne otvetil

This implication would need an extremely unusual situation for its justification. Under ordinary circumstances it would be regarded ungrammatical, but even in the appropriate context its semantic reading is totally different from the sentence containing the adverb *robko* (shyly).

Problems with Performative Analysis

Having elaborated on the behaviour of adverbs in complex sentences, let us now see how in the following sentences involving manner adverbs the application of the performative analysis gives rise to many questions that need to be answered.

1) *Problem of Imposition of assertion*

In the performative treatment of adverbs where only one performative verb is employed, the underlying paraphrase for the sentence

Saša vzjal korobku ostorožno.

Sasha took the box carefully.

will be Ja zajavljaju, čto Saša vzjal korobku ostorožno.

I declare that Sasha took the box carefully.

But, the description of Sasha's action as careful does not necessarily portray a real fact. Rather, it is more likely a subjective evaluation of it from the speaker's point of view . The application of the performative verb to these kinds of structure projects the manner of action, in every instance, as a real fact, thus totally downplaying the possibility of it being the speaker's subjective perception. This problem can be rectified, as suggested by Corum, by inserting a separate node for the person making the judgement. But to do this two performative verbs need to be employed which, in turn, give rise to new problems discussed below.

2) *Problem of Dual Subjectivity*

In case of the application of the performative theory to complex sentences containing evaluative adverbs and a subordinate reason clause refering to the manner adverb in the main clause, a second type of subjectivity can potentially exist. E.g., In

> Saša vzjal korobku ostorožno, potomu, čto v nej bylo steklo.
>
> Sasha took the box carefully because it contained glassware.

there exists a kind of dual subjectivity : either a) the use of the adverb to describe the action in question is subjectve; while reason is an objective fact, or b) the reason for that manner is understood subjectively as the speaker's opinion while the adverb expresses an objective fact.

These distinct levels of subjectivity can be represented roughly as:

a)' Ja zajavljaju, čto (po-moemu), Saša vzjal korobku ostorožno.

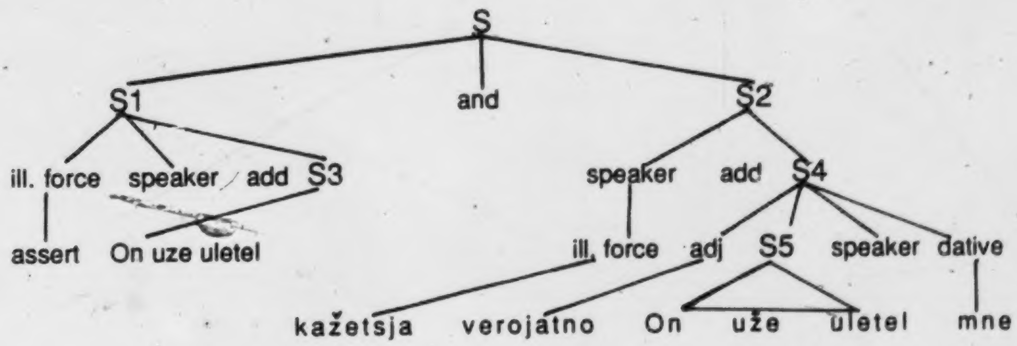
b)' Ja zajavljaju, čto Saša vzjal korobku ostorožno (po moemu) potomu, čto v nej bylo steklo.

If, however, we employ two performative verbs to account for the speaker's subjectivity then the structure becomes self-contradictory in case of certain epistemic modal adverbs. To illustrate this point let us analyze the following sentence.

On, verojatno, uže uletel.

Probably, he has already left.

According to Corum's phrase tree this sentence will have the following structure.


S
S1
and
S2
ill. force
speaker
add
S3
assert
On uze uletel
speaker
add
S4
ill. force
adj
S5
speaker
dative
kažetsja
verojatno
On
uže
uletel
mne

In the first part of the above structure the speaker is shown to assert the proposition *somebody has already left* and the second part expresses the subjective evaluation of the probability of the same event which necessarily contradicts the earlier statement. The reason for such contradiction lies in the fact that *verojatno, on uletel* does not imply that *on uletel.* Thus the employment of two performative verbs to represent two different illocutionary forces and speaker's subjectivity gives rise to some very serious problems in case of epistemic modal adverbs.

Let us now turn our attention to three other inadequacies of the performative analysis from a more pragmatic point of view. Here the term *pragmatic* is understood as it is defined by Simon Dik (1978 : 128).

> Pragmatic information is the full body of knowledge, beliefs, and assumptions available to a speaker or addressee. It consists of three main components ; long-term information concerning the world and other possible worlds, information derived from what the participants perceive or otherwise experience within the situation in which the interaction takes place, and the information derived from the linguistic expressions which have been exchanged before any given moment.

We shall now illustrate that when the speaker makes a statement using an adverb the process tacitly involves numerous extralinguistic factors such as the speaker's knowledge of the object (or the situation) that is being talked about, a certain reference point in his mind relative to which he judges the situation, his social, cultural and personal biases toward the topic of the conversation, certain presuppositions about his interlocutor's knowledge of the situation, and finally, various concepts associated with the lexical semantics of the adverb. Without this conceptual setting at the disposal of both the speaker and the hearer comprehensible and relevant communication would not occur.

If we scrutinize the performative account of adverbs in some simple and complex sentences it can be observed that it makes no explicit reference to this conceptual level where thoughts are crystalized before they are verbally expressed. Nor does it take into account various contextual factors that influence the content and form of the communicative act. Observe the following sentences.

> Sadističeski, Valik vybrosil vse plastinki, ne ostaviv Pavlu ni odnoj.
>
> Sadistically, Valik trashed all the records, not saving a single one for Paul.
>
> Kak ne stranno, obed podali v šest'.

> Strangely, the dinner was served at six.
>
> Posle seminara studenty pošli vypit' pivo. Alĕša, očevidno, vyskol'znul ne zaplativ.
>
> After the seminar, the group went for beer. Obviously, Alesha sneaked out without paying.

If we adopt, for the above sentences, Corum's analysis which employs two performative verbs, then the phrase tree in each case would represent the adverbial illocutionary force by labelling it as *judge* or *evaluate* . It would also provide a node to denote the person who experiences the given attitude. However, it cannot point out cultural and individual variables that force (or allow) the speaker to use an adverb at a given time. It is also not meant to indicate what makes an adverb appropriate/inappropriate in a given context. Below, we shall briefly explain why reference to the above factors is crucial in discourse.

In the first sentence the lexical semantics of *sadističeski* (*sadistically)* entails that saving the records would likely have made Paul very happy, but even after knowing this Valik deliberately trashed them. As a result, Valik's act is evaluated by the speaker as sadistic. The adverb hints at Valik's motives behind throwing away the records and Paul's reaction to it. But one can not access this information by using a performative frame of analysis.

Also, the use of *sadistič eski* in the first sentence is appropriate only in a context where Valik trashes the records deliberately with the intention of disappointing Paul. In a situation where Valik is not aware of Paul's interest in records and unknowingly throws them away, the action can not be called sadistic since there is no intention of hurting somebody.

But what determines the appropriateness of an adverb in a given situation ? Certainly not the cooccurence restrictions as they are used in generative transformational grammar, because the grammatical properties and lexical semantics of the adverb remain the same in both of the above situations. What can vary are the contextual factors such as the speaker's and agent's knowledge about the situation and about people involved in it, their expectations about an event and the actual occurence of it, etc. Performative analyses provide no devices for accessing the kind of information necessary for such judgements of appropriateness.

In the second sentence the dinner at six is perceived and judged by the speaker as *stranno* (strange). The reason for this judgement could reside in the person's cultural upbringing in which normal dinner time is between eight and nine. In the third sentence Alesha's sneaking out without paying for beer is considered by the speaker as something expected and obvious only on the basis of his prior and personal knowledge about him. The performative treatment of adverbs, however, does not allow these facets of adverbial semantics and usage.

Summary

This chapter was devoted to a survey of the performative analysis of adverbs. We examined C. Corum's work which can be taken as representative of the new trend of giving a formal account of the pragmatic factors involved in the use of an adverb. The two discourse points dealt with are : the illocutionary force of the adverb which is different from that of the main sentence; and the speaker's role in judging an event in a particular manner. In the first instance she brought to our attention the fact that evaluative and attitude adverbs carry their own illocutionary force, and in a performative treatment they need to be represented by a separate speech act verb, other than that underlying the main statement. In the second case she emphasized that the attitude or the judgement expressed in the adverb may not be the objective reality, but represents person's subjective views about the event. This fact was successfully captured by Corum by inserting a node which stands for the person to whom the attitude is attributed. However, on the basis of some complex sentences, we illustrated that the performative analysis with one as well as two verbs involves certain problems and therefore, cannot be applied to explain all the adverbs in our data. In the case of simple sentences the use of performative analysis renders a very assertive reading thus downplaying the possibility of the speaker's subjectivity. If this problem is to be avoided, one needs to employ two performative verbs. But in the case of epistemic modal adverbs the two verbs can introduce in a single sentence two self-contradictory illocutionary forces giving an unacceptable structure. Also, the performative treatment of adverbs makes no reference to the tacit knowledge that necessarily accompanies an adverb by virtue of its lexical semantics. It does not refer to a person's cultural background which affects his judgement of an event. The personal knowledge that the speaker has about a situation or an individual is also not taken into consideration. This knowledge is shown to be responsible for the person's evaluation of a situation. We expressed a need to account for the appropriateness/inappropriateness of adverbs in various contexts and made a claim that the discourse study of adverbs must include many more pragmatic factors in addition to those covered by Greenbaum and Corum. In doing so one will have to abandon sentence grammar and turn to discourse grammar. Only such examination of the category in the setting of general world knowledge and situational as well as contextual information can reveal and explain the complexities of adverbial semantics and function in live discourse. In the next chapter we shall explore two cognitive theories which we believe can handle the above mentioned issues in adverbial modification.

VI. ADVERBS AND COGNITIVE THEORIES

The pragmatic facets of adverbial usage which could not be explained in the preceding chapter within the performative framework need an explanation which would look beyond the discourse properties of adverbs discussed above. In this chapter we shall deal with two theories which not only bear heavily on the pragmatic aspects of adverbial semantics but go beyond and explore the cognitive side of their usage and interpretation. Due to this deeper theoretical base they can be shown to handle many complexities of adverbial modification which remain unaccounted for in the performative treatment of the category. The first theory to be discussed, which we shall call "Belief Theory" was developed by R. Schank (1974). He introduces the concept that adverbs tacitly carry with them a set of beliefs and that these beliefs decide the function of a given adverb in a given context. In order to reveal the nature of such a belief structure a deeper level of linguistic description is employed. Beliefs are shown to reference the world that is shared by both the speaker and the hearer. This shared knowledge resides at a conceptual level that represents the implicit as well as the explicit information underlying a surface string. Schank's belief structures will be employed to explain such issues as the appropriateness/inappropriateness of an adverb in a given situation and the optional/obligatory modification of adverbs by subordinate clauses.

The second theory to be discussed in this chapter is called the theory of "Idealizd Cognitive Models" (ICMs), developed by G. Lakoff (1982). ICMs are taken to be holistic ways of framing situations. They are based on human experience of the world; a person's knowledge of his surroundings and of people around him. This knowledge forms in his mind various ICMs of every object with which he is familiar and influences his expectations about it. The theory of ICMs will be exploited to explain different interpretations of adverbs in different situations and again to account for their appropriateness in context. ICMs will also help us explain the obligatory use of predicative adverbs in agentless active sentences.

R. Schank's Belief Theory

Schank's 1974 article attempts to show how words are associated with beliefs and presuppositions which in most cases remain linguistically unexpressed but tacitly influence their interpretation and behaviour. For example, in

> John bought the book from Mary.

the verb *bought* has associated with it a belief that there is an exchange of money involved in the action. Schank claims that adverbs indicate that the underlying conceptual structure of the modified verb fits into a certain spot in a complex belief structure. The following example illustrates this relationship.

> Mercifully, the king only banished the knight for killing his favourite horse.

In Schank's view *mercifully* refers to the belief that " the knight did something to hurt the king which could have led to the king hurting the knight a great deal, but the king only hurt him a little. " (1974:54) In other words, the punishment was less than might be expected. This belief also influences the syntactic and lexical structure of the utterence, since *only* now becomes an obligatory element required by *mercifully*. Similar structures are provided for adverbs such as *unjustly, wrongfully, illegally* and so on. These adverbs express a judgement on the part of the speaker in terms of his belief system, which accordingly evaluates an adverb as justified/unjustified, legal/illegal etc.

The underlying conceptual structure available for adverbial modification is believed to be restricted to a particular class of verbs that represent an ACT. In Schank's words :

> The prevailing idea that adverbs modify verbs can be transferred to the conceptual level only if the verb that is in use is conceptually an ACT and the modifying adverb refers to a particular aspect of that ACT. (1974 : 64)

In order to make this claim clear to the reader it is necessary to give some insight in how the term ACT is understood by the author.

ACTs

An ACT is defined as a set of conceptual primitives into which semantic structures that have the same overt or implicit meaning can be mapped (1974 : 47). They are described at the belief level-- a level which represents the relation between conceptual entities which may not appear in the surface representation of a given sentence. This idea is exemplified in the sentence :

John bought the book from Mary.

where the transfer of money involved in the process of buying the book is not overtly expressed but certainly exists in the consciousness of both the speaker and the hearer.

In order that a verb qualify as an ACT, Schank requires three or four out of five of the following possible conceptual semantic cases to be present in the sentence. Actor (A), Objective (O), Instrumental (I), Recipient (R), and Directive (D). Any two sentences that are said to have same meaning must have identical conceptual structures. Thus, for the verb *to give* the primitive ACT *transfer* is used. The relation between these conceptual entities is denoted by dependency arrows and only those semantic cases are included in the schema which are crucial for establishing the relation between various entities. The following symbols are used in the structures :

⇑ = the causal relation between two primitive ACTs (Here it is important to note that *to cause* is considered a relation and not an ACT.)

⌐ = negation, ∨ = and, ∧ = but, C = Conceptualization, A = Actor, O = Objective, I = Instrument and R = Recipient

Thus the sentence cited above, John bought a book from Mary has the conceptual structure :

	A	O	I	R
C1 : TRANS	John	money		Mary
⇑				
C2 : TRANS	Mary	book		John

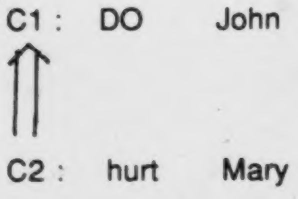
The structure reads as : C1 caused C2, which means : John's giving money to Mary caused Mary to give a book to John.

An ACT must also be invariant regardless of the sentence in which it is contained. In other words, an ACT at the conceptual level should be a primitive action which can not be further analyzed into any relations (such as causal or resultative) between two primitives. I.e. in

John hurt Mary

hurt is not an ACT because what John did to hurt Mary is variable. That is, John may have hit her or insulted her mother or broke their engagement. Therefore, *hurt* is simply a state resulting from a variable action: the variable action of doing something is the cause of hurting Mary. This causal relation between the two is represented by the author in the following scheme. (DO is used as a dummy ACT whenever the actual ACT is unspecified.)

A



"The scheme reads as C1 caused C2, which means : John's doing something (unspecified) caused Mary to get hurt".

Adverbs and Belief Structures

Adverbs too are taken to map complex relationships that exist between linguistic expressions and beliefs. Therefore, various extensions of the above scheme are employed to show how adverbs refer to the underlying network of concepts that are not overtly expressed in a sentence. The following sentence serves as a working example.

John threw a hammer at Bill vengefully.

In the conceptual structure of this sentence the underlying ACT for *throw* is taken to be PROPEL; meaning- "to apply a force to." The instrumental ACTs for PROPEL are MOVE and UNGRASP. The conceptual diagram for the above sentence without the adverb *vengefully* is :

		A	O	D	I
C1 :	PROPEL	John	hammer	Bill	C1a + C1b
C1a :	MOVE	John	hand containing hammer	Bill	
C1b :	UNGRASP	John	hammer		

"The scheme reads as : John propelled the hammer at Bill with the help of the two instrumental actions of moving the hand containing the hammer and ungrasping it."

If the adverb *vengefully* is to be inserted in the above structure one cannot simply modify the instrumental actions MOVE & UNGRASP. The reason for this is that one can move something quickly, back and forth but not vengefully since it does not relate to any aspect of the action of moving. In Schank's view the possible modifiers of a primitive ACT can be only those that refer to the various aspects of the action that the ACT represents. As a result, the adverb *vengefully* itself needs to be broken down to some primitive concepts.

To do this Schank considers *vengefully* as simply another form of *revenge*, which in turn is analyzed into underlying primitive actions. Thus *revenge* is said to be reflective of the following belief-conceptual structure.

A

C1 : DO One
⇑
C2 : hurt Two
⇑
C3 : DO Two
⇑
C4 : hurt One

The conceptualizations C1, C2, C3 and C4 are interrelated causally according to the following scheme where f = future and i = intended :

$$\begin{tikzcd}
C1 & C3 \\
C2 \arrow[u, Rightarrow] & C4 \arrow[u, Rightarrow, "i"'] \arrow[l, Rightarrow, "f"']
\end{tikzcd}$$

"The scheme reads as : Actor One did something which caused Actor Two to get hurt. Actor Two intended to do something in future which would cause Actor One to get hurt". This relation between the two actions is labelled in English as *revenge*.

As per this conceptual structure of *revenge* the schema for the sentence containing *vengefully* will be :

		A
C1 :	DO (unspecified)	Bill
⇑		
C2 :	hurt	John
⇑		
C3 :	throw	John
⇑		
C4 :	hurt	Bill

Similar conceptual structures are provided by the author for the adverbs *needlessly, stupidly, illegally* and so on. In the example,

Fred hit John needlessly

needlessly refers to the reason and the actual or intended effect of an action. An action can be needless if the intended result of the action did not occur. To capture this fact conceptually one needs to graphically show *intention* - a process associated with thinking. The basic ACT underlying *thinking* is taken to be CONCEPTUALIZE. Also, most of the intended actions have expected goals which bear a causal relation with the ACT. The causal effect of the CONCEPTUALIZEd action is shown in the following scheme.

$$\begin{array}{llll} & & A & O \\ C1 : & \text{CONCEPTUALIZE} & \text{self} & C2 \\ & & & \Uparrow \\ & & & C3 \end{array}$$

"The scheme reads as : Actor A conceptualized that C2 caused C3 where C2 represents an action (unspecified) in the actor's mind and C3 is the new state resulting from it". The relation between C2 and C3 is schematized as :

$$\begin{array}{lll} & & A \\ C2 : & \text{DO} & \text{self} \\ \Uparrow & & \\ C3 : & \text{State} & \text{object} \end{array}$$

" Actor A did something to cause the new state of the object. "

Now this structure can be used to give the conceptual diagram of the sentence *Fred hit John needlessly* where the symbol ⌐ =

negation

		A	O
C1	CONCEPTUALIZE	Fred	C2 ⇈ C3
C2 ⇈	HIT	Fred	John
C3 ⌐	Unstated		

"The Actor A conceptualized (intended) that C2 caused C3 i.e. hitting John would cause the effect C3. But in reality C2 did not cause C3. As a result, Fred's hitting John proved to be a needless action". However, this conceptual structure does not capture a very important aspect of adverbial modification--the subjectivity in the use of the adverb. It is not clear from the above scheme whether it is Fred who concludes that his hitting John was needless or it is the speaker's subjective evaluation of Fred's action.

Summary

The above discussion by Schank on the conceptual level of adverbial semantics underlines the turn taken by the study of the category in the late seventies. The theory of belief structure tries to explain the semantic makeup of an adverb by going deeper than its mere lexical meaning. In doing so it distinguishes two levels of meanings of a word : lexical and conceptual. Lexical meaning, in Schank's opinion, represents only that part of the meaning of an adverb when it is used in a sentence. It can be described as the tip of an iceberg which carries underneath a larger portion. For example, the lexical meaning of *vengefully* only expresses the idea that the motive behind a certain action was to take revenge. In the case of *needlessly*, an action is/was carried out for no reason.

However, lexical meaning carries beneath it a conceptual meaning which is not explicated in discourse but tacitly decides the functional properties and interpretation of that adverb. Schank's theory makes a claim that conceptual meaning is a product of a very complex interaction between the human mind and its activities and related social as well as psychological factors. The conceptual meaning of a word denotes a certain relation between various entities relevant to the lexical semantics of that word. The use of the word in discourse depends on whether or not the required relation between the concerned entities is present in the situation or is established in the context. For example, in case of *vengefully*, as shown earlier, its conceptual underpinning requires the following relation between the entities involved : Actor A (probably intentionally) causes some harm to B. B wants to retaliate and cause some harm to A and accordingly acts with the intention of taking revenge. Unless this situation exists, the adverb can not be appropriately used.

Due to the presence of such underlying meaning, adverbs are shown to do much more in a discourse than simply modify a verb. Most importantly, they make reference to their underlying beliefs and concepts with which the hearer sharing the same world is presumed to be familiar. This presumption affects the syntactic and lexical structure of the sentence.

Application of Belief Structures to Adverbs

As mentioned earlier in the beginning of this chapter, we shall employ Schank's belief structures to explain some peculiarities of Russian adverbial usage in discourse. The major issues to be dealt with are : the question of the appropriateness/inappropriateness of a Russian adverb in a particular situation and, the obligatory/optional justification for the use of the adverb. Let us now turn our attention to the first problem of appropriateness of the adverb.

Accepting Schank's thesis that many adverbs, while modifying an act, refer to the totalized, summarized view of various causal or justificatory relations between two events, we could further argue that these relations usually reflect the norms of the society and pertain to the psychological makeup of the human mind. In Schank's example

> Volodja nezakonno vodil maminu mašinu.
>
> Volodja drove his mother's car illegally.

the use of the adverb *nezakonno* (*illegally)* depends on the speaker's knowledge of the legal system within which driving operates. One can also say that by referencing the underlying belief structure in a speaker's mind, adverbs may, in certain instances, serve as indicators of the prior or posterior situations not overtly described in discourse. For example, they can predict a future event if a suitable contextual frame is present. Observe the following sentence

> Mne nado bylo vernut' knigi, a ja byla bol'na. K sčast'ju, zagljanula Anjuta.
>
> I was very sick and I had to return the books. Fortunately, Anjuta dropped in.

The adverb *k sčast'ju* (*fortunately*) in the above structure would have a belief sphere which indicates that the speaker had a certain desire and that the next event gave her reason to believe that it would be/was fulfilled. Due to this belief structure, the adverb fortells the positive outcome of the action or event. In particular, *fortunately* in the above sentence would lead us to the inference that the speaker was hopeful that Anjuta would or did return the books for the speaker. In other words, the belief spheres of adverbs are the conceptual setting in which they can occur. When used in a text they reflect certain presuppositions in the participants' minds. In our view, this is exactly what is responsible for the appropriateness of an adverb in a particular situation. Let us support our claim with the help of the same sentence containing *k sčast'ju*. The conceptual scheme in Schank's grammar for *k sčast'ju* would look something like :

	A	O	
C1 : CONCEPTUALIZE	Speaker	C2	and
C3 : COME	Anjuta		
C4 : CONCEPTUALIZE	Speaker	C2	

Where C2 = books be returned. The scheme reads as : The speaker A conceptualized (wanted) C2 (the books to be returned) and C3 happened (Anjuta dropped in). C3 (Anjuta's dropping in) caused C4 (made the speaker conceptualize that C2 would occur in future) i.e., books would be returned. Thus there exists a causal relation between C3 and C4.

Now for the adverb *k sčast'ju* to be appropriate in the above structure it is necessary that the above relation between C2, C3, and C4 be materialized. If the relation between different events or states which is required for an adverb as its referent is not established or is distorted, then the use of the adverb becomes inappropriate. For example, in the above sentence if the relation between C3 and C4 is altered, as schematized below, then *k scast'ju* can no longer modify the event of Anjuta's dropping in.

		A		O
C1 :	CONCEPTUALIZE	Speaker		C2
C3 :	COME	Anjuta	and	
C4 :	MAKE	Anjuta		porridge

The scheme reads as : The speaker A conceptualized (wanted) that books are returned. And Anjuta dropped in and made porridge.

In the above structure the insertion of *k sčast'ju* renders the following logically nonsensical statement.

- Mne nado bylo vernut' knigi, a ja byla bol'na. K sčast'ju, zagljanula Anjuta i svarila mne kašu.
- I was very sick and I had to return the books. Fortunately, Anjuta dropped in and made porridge for me.

Schank's schemes thus help us formulate the conceptual underpinnings and contextual requirements of each adverb. These restrictions go far beyond anything envisaged by the typical cooccurence relations found in sentence grammars. In discourse we can judge if these requirements are met and accordingly assess whether or not the use of the adverb is appropriate in that situation. But even within the single sentence discourse factors of the above type play an important structural role, as will be seen in the following section.

Adverbs and Obligatory Reason Clauses

Let us turn our attention to the question of the obligatory/optional clarification of adverbs in certain complex sentences where an adverb in the main clause is modified by a reason subordinate clause. Our claim is that whether or not an adverb needs to be modified depends on how familar its belief structure is to the participants of the discourse. We shall substantiate this claim basically within the framework of Schank's belief theory but supplementing his schemes with contextual information. This means that we must extend his theory beyond the boundaries of the sentential structures, and take into account not only the context in which the given sentence is uttered, but also the common knowledge about the world shared by the participants of the discourse. It will be shown that it is precisely the elements in a sentence refering to this common knowledge that play a crucial role in deciding the optionality or the obligatoriness of the reason clause for the adverb.

As seen earlier, in the following complex sentences the attitudinal adverbs denote the speaker's subjective attitude toward the proposition expressed in the main clause or his evaluation of it. The subordinate clause (if present) modifies the use of the adverb.

1) Luckily, Matt won the election because he will be able to clean up crime in Dodge.

2) Surprisingly, Herbert won the match because all pros were convinced that he would not.

3) Mne nado bylo vernut' knigi, a ja byla bol'na. K sčast'ju,

zagljanula Anjuta.

I was very sick and I had to return the books. But fortunately, Anjuta dropped in.

4) Vy vvezli èti semena nezakonno, tak kak ix nado deklarirovat' na tamožne.

You brought in these seeds illegally because one is supposed to declare them at customs.

5) Oni provozjat èti narkotiki nezakonno.

They are bringing in the drugs illegally.

The structures 1-3 have sentence initial attitude adverbs. In the first two the adverb is obligatorily modified by the reason clause. In the third sentence the adverb is not given further explanation and thus the reason clause is absent. In 4) and 5) we are dealing with manner adverbs : in 4) it is supplemented with a reason clause while in 5) the clause is missing. How does one account for this structural difference?

In the structures 1) and 2) the attitude expressed by the speaker needs some justification because : a) in 1) the rationale behind the speaker's judgement of the situation (action) is unknown to the hearer; b) in 2) the subjective attitude of the speaker was not anticipated and the speaker has to justify his attitude and the inference that arises as a result of the attitude adverb.

In the third sentence the adverb *k sčast'ju* is not given further elaboration because it is assumed that the sentence represents a discourse segment where participants share considerable knowledge about the situation. It is expected that the hearer knows Anjuta and her relationship with the speaker. The conclusive inference that *the speaker was confident that Anjuta can and will return the books for her* must derive from the previous context, and the belief sphere of *k sčast'ju* in the participants' minds.

The same argument holds for the structures with evaluative adverbs. In the sentence 5) *narkotiki* (the drugs), which is the direct object of the verb, has a certain belief sphere around it which is shared by both participants of the discourse. Since in most societies the transportation of drugs is illegal this enables the speaker to express his subjective evaluation of the action of *bringing in drugs* without having to give further justification for his evaluation. The belief structure around the direct object *semena* (seeds) of the sentence 4), on the other hand, is not so obvious and may not be shared by the hearer. This forces the speaker to justify his use of the adverb *nezakonno* (*illegally*) by adding a subordinate reason clause.

Summary

Schank's analysis tries to explain why an adverb functions in a certain context in certain way. The behaviour of an adverb in a sentence is shown to be the product of the summarized influence of the lexical meaning of the adverb, its interaction with the context and its effect on the presuppositions that the speaker and hearer form about a situation. Schank's major achievement lies in the thesis that the lexical semantics of an adverb are anchored in the participants' minds to certain preconceived beliefs, or in other words to complex interrelated concepts and presuppositions.

By adopting belief structures in our account of adverbs we could explain the basis on which the judgemental or evaluative force of adverbs operates. These structures mainly consider that kind of knowledge which is associated with the lexical semantics of an adverb due to the psychological state of the human mind (c.f. *k sčast'ju*, *mstitel'no* (fortunately, vengefully), and so on) in evaluating man's every-day activities. However, this evaluation of the relation between prior events, as proposed by Schank, represents only a fraction of the total underlying belief sphere of adverbs. In discourse adverbial modification involves many more presuppositions. In particular, the author does not take into consideration the socio-cultural factors which influence the semantics of adverbs in various contexts. He also does not deal with the variability of knowledge for different speakers/hearers at different places and times, although the theory can be extended to deal with this possibility. If one is to explain the subjectivity in usage and interpretation of adverbs one must attend to the question of socio-cultural variables affecting adverbs. One must also take into consideration situational knowledge, which underlies many adverbs. By this we mean knowledge which is held by a speaker due to his or her familiarity with a certain situation/individual at a particular point in time. Therefore, in many instances, it is of a transitory nature and is confined only to the speaker.

In the following section we shall address ourselves to the role of thee two kinds of information in adverbial semantics. G. Lakoff's theory of ICMs will assist us in illustrating more vividly how cultural information available to the speaker/addressee affects the use and interpretation of adverbs in live discourse. This theory will be supplemented with a few of our own proposals concerning situational knowledge.

G. Lakoff's Idealized Cognitive Models

In his theory of Idealized Cognitive Models (1982) G. Lakoff illustrates how each member of the lexical category of nouns arouses in a person's mind an idealized picture of its overall meaning. This picture, however, is not a kind of universal cognitive structure as in Schank, but is a summarized reflection of the impact of a person's social and cultural background and his personal biases.

Lakoff discusses only pragmatic knowledge about the world and socio-cultural factors influencing the ICMs of a noun. We will propose, however, a distinction between two kinds of information that shape ICMs of any lexical item in person's mind: a) : socio-cultural ICMs - based on the cultural and sociological background of a person and consisting of pragmatic knowledge about the world; and b) : situational ICMs- which are the product of person's more immediate exposure to a certain situation or individual. The difference between the two lies in the fact that socio-cultural ICMs have different presuppositions across different cultures, but do not vary intraculturally. Situational ICMs, as defined here will vary for the same individual from time to time and are not so culturally determined. Also, socio-cultural ICMs are relatively stable since they refer to permanent, longlasting, as well as remote concepts, states and situations. Situational ICMs, on the other hand, are idealized mental images about more immediate situations which can be events or states of very short duration. We believe that both types of knowledge are contributory factors in ICMs, because, just like Lakoff's socio-cultural factors, situational knowledge too invokes in a person's mind presuppositions, expectations and preconceived ideas about various events and states. Nevertheless, it will be seen that the boundaries between cultural and situational knowledge and therefore between the two kinds of ICMs are not rigidly fixed. This fits well within the general metatheory of ICMs, which are themselves employed to explain the fuzziness of boundaries in cognitive categories.

In this chapter we shall attempt to illustrate that the modification of an event by an adverb is heavily influenced by the ICMs associated with that adverb and with the elements involved in the event itself. We shall also explain how the interpretation of an adverb depends on the overlap between the relevant ICMs in the speaker's mind and those of the hearer's. This in turn decides whether or not the use of an adverb needs to be justified and its meaning to be clarified by a modifying explanatory clause. While this is parallel to our earlier treatment of adverbs within Schank's theory, it will be seen that the kind of information accessed in this process is considerably different. In most cases involving epistemic modal adverbs the most salient information in them that affects a person's impressions about an event pertains to immediate situations rather than to long term knowledge about the world or any culture.

Before we proceed to employ ICMs in our cognitive account of adverbs it is necessary that we explain the origins and basic tenets of Lakoff's theory.

What is an ICM ?

The concept of ICMs developed out of the theory of natural categorization in the works of E. Rosch, B. Berlin, P. Kay, D. Bolinger, W. Labov and C. Fillmore. The proponents of the theory of natural categorization discarded many of the basic tenets of classical category theory : clear boundaries between categories, shared properties among its members, their absolute uniformity with regard to their status as members of a category, inflexibility of the sphere of a category and its internal definition.

Natural categorization proposes a definition of a category which takes into account how people interact with the objects of the category and how they perceive or image them. The relevant properties which cluster together to define such categories are not internal to the objects but are interactional properties dependent on people. In the theory of natural categorization some members are judged by subjects to be more representative of a category than others. E.g., robins are considered more representative members of the category *bird* than ostriches or chickens. The representative members serve as cognitive reference points for certain kinds of reasoning and other tasks. According to this theory the category boundaries are indeterminate and show a good deal of variation at the edges.

Some of the above-stated claims of the theory of natural categorization have been adopted in formulating the definition of ICMs :

> ICMs are idealized models of reality. The idealizations involve oversimplifications, and often, metaphorical

> understandings and theories of reality- both expert theories and folk theories. (Lakoff : 1982 : 48)

Lakoff hypothesizes that ICMs provide holistic ways of framing situations, where a situation is taken to be an otherwise fragmentary understanding of either the real or some imaginary, fictional world. People understand the world via natural categories of the mind and the experiential bases of such categories in perception, bodily experience, social experience, etc. ICMs are thus not objectivist models. Nor are they subjective. They are intersubjective and based on something real, namely the real experiences of human beings. (1982 : 48)

The meanings of lexical items are defined relative to ICMs. In other words, they are defined relative to ways of framing situations, and the existence of such ways of framing provides a rationale for the existence of particular words. To exemplify these claims we can cite Fillmore's example of the word *bachelor* . (1982 : 34)

> The noun *bachelor* can be defined as an unmarried adult man, but it clearly exists as a motivated device for categorizing people only in the context of a human society in which certain expectations about marriage and marriagable age obtain. Priests, male participants in unmarried couplings or a boy grown to maturity away from contact with human society would not be called *bachelors*.

Thus *bachelor* is defined with respect to an ICM in which there is a human society with marriage and a typical marriageable age. The ICM theory would account for the appropriateness of using the lexical item "bachelor" in context. For example, a two year old boy will not be appropriately called a bachelor since the ICM of *bachelor* needs its members to be of a certain age and two-years-olds do not meet that condition. An ICM may fit one's understanding of the world either perfectly, very well, badly or not at all. If an object referred to by a term fits perfectly the ICM in which the term is defined, then that object qualifies as a prototypical member of that category. But in certain instances an ICM can fail to fit the real world perfectly or the object referred to may deviate from the criteria on which the ICM of that category operates. Thus, for example, sparrows and robins, due to their physical as well as behavioural properties fit perfectly the ICM of the category *bird*, and therefore would be regarded prototypical members of the category --more than, say, bats.

It seems natural, in view of our previous discussion of adverbials, to try to extend this theory, which works so well for nouns, to other categories. Adverbs being a lexical category similiar to nouns, can be shown to be associated with ICMs. Adapting Schank's work to this theoretical perspective, the ICMs of an adverb would include certain actions as its more representative referents while others may lie on the edge. Similarly, certain participants would be taken to be more probable arguments of the action which is modified by that particular adverb. Finally, socio-cultural, psychological and circumstantial factors can be shown to decide the typical and nontypical associations of an adverb.

In the following two sections we shall examine the relation between ICMs and some adverbs to show how the cultural background, psychological makeup of human beings and their exposure to various situations are reflected in a person's preconceived impressions about the meaning and functional domain of the adverb. As mentioned in the introduction, we shall distinguish between cultural ICMS and situational ICMs since they operate on two different kinds of information. In so doing we shall notice strong connections between the concept of Schank's belief structures and that of ICMs. Both deal with the tacit information and contextual factors that go into the making of the lexical semantics of a word but focus on different aspects of the issue.

Schank mainly emphasizes the fact that adverbs, due to their lexical semantics, require or presume a certain relation between two events (states) as their referent. The relation can be varied in nature : resultative, causative, etc; and the use and modificational function of the adverb depends on this interaction.

ICMs, on the other hand, focus on the human experiential factors that decide the appropriateness of a word in discourse. In the case of adverbs ICMs would determine whether or not the required relation between two events is established in accord with his socio-cultural background, psychological makeup and his situational knowledge of the world. The close correlations between belief structures and ICMs reveal themselves in the following discussion on cultural ICMs.

Adverbs and Socio-cultural ICMs

In the formulation of belief structures Schank theorizes that every adverb is associated with a complex network of various concepts which imposes certain presuppositions and constraints on its usage. To paraphrase an earlier example, the belief structure of the adverb *mstitel'no* (vengefully) was shown to involve the following presuppositions :

1) A certain actor A caused some harm to a certain patient B.

2) Then B wanted to retaliate and cause harm to A.

3) The motive behind B causing harm to A was to take revenge.

But the conceptual structure is not exhausted with these presuppositions. It also presupposes many more variables that come into the picture when the adverb is used in a live discourse. And this is where the ICM of the adverb comes into play. The ICM of *mstitel'noo* would include, for example, a prototypical actor and a representative age of that actor. The context in which the word is used should fit this representative age of the actor. If not, then the ICM would not fit the real world situation. E.g.,

? Rebënok mstitel'no udarjal mamu.

? The baby was vengefully hitting its mother.

The use of the adverb in the above structure is normally unacceptable because the contextual setting in which it is being used does not comply with the ICM associated with *mstitel'no* . Our knowledge about the world tells us that babies are intellectually not developed enough to perform the concious act of retaliating or taking revenge. This knowledge that we posssess excludes from our ICM of *mstitel'no* babies or children under a certain age as doers of any vengeful act (presuppositions 2 & 3). Our knowledge of human psychology also tells us that human adults with normal psychological makeup do not intentionally cause harm to babies, which is the main impetus for any vengeful act (presupposition 1). Thus it is not likely that any of the above three presuppositions related to *mstitel'no* in Schank's theory would meet the conditions of the normal ICMs associated with participants involved in the above sentence. It is this then that accounts for the inappropriateness of the above sentence.

If the use of *mstitel'no* is to be justified in the above sentence then one needs to modify the ICMs of its participant and give enough background information in order to define a new world situation. E.g., the baby in the above narration is a character in a science fiction story and has a super brain that remembers events from its past life. The baby's mother is actually his rival from his last life and so on. If the speaker/author can impose these ICMs on the hearer/reader, then the use of *mstitel'no* in the above context becomes acceptable.

The ICM of any word is structured on the basis of our knowledge of the world and our understanding of the environment in which we grow. Thus the ICM of the same word may have different associations and presuppositions in the minds of two people raised in two different cultural environments. E.g., the ICM of the adverb *zakonno* (legally) or *nezakonno* (illegally) has certain representative participants and actions that can be legal or illegal. Cocaine or gold will be considered representative objects of illegal trafficking in most nations. Thus the ICMs associated with these adverbs or with the nouns *cocaine, gold* will be understood ulmost uniformly across cultures. However, trafficking tea or spices or certain seeds may be considered illegal in some nations and perfectly acceptable in others. As a result, the ICMs of *nezakonno* existing in two different nations may not coincide in certain contexts. In such instances one needs to supply the addressee with contextual cues to make the use of the word acceptable in the given situation, in the given language, or for a given listener.

The use and interpretation of an adverb is further complicated by the fact that each word in the sentence has its own ICMs and the final semantic reading of the whole sentence depends on the interaction between presuppositions aroused by the appropriate ICMs of all words in that sentence. For example, in the following two sentences containing two different participants *nezakonno* has totally divergent interpretations.

> Ètot kokain vvezën s juga nezakonno
>
> This cocaine was brought in from the south illegally.
>
> Ètot kokain vvezën gospitalem nezakonno.
>
> This cocaine was brought in by the hospital illegally.

The most probable semantic interpretation of the first sentence will be : the cocaine was trafficked across the southern border of a nation where narcotic possession is illegal (most probably U.S.) by some gangsters. However, the second sentence gives rise to a totally different reading since it is common knowledge that hospitals are allowed to buy a certain quota of cocaine for medical purposes. On the background of this knowledge the use of *nezakonno* creates the impression that some members of the hospital staff misused their authority and bought cocaine beyond the legal limits for institutional or other use. Thus for proper communication between the participants of any discourse they should be familiar with the combined ICMs of all words used in a sentence.

The availability of information about the situation in which a word can be used plays a crucial role in the formation (or alteration) of the ICM of that word in one's mind. It can always change with the addition of new knowledge that is relevant to the word. In discourse there is a constant flow of information from speaker to hearer. The ongoing supply of various contexts helps the hearer build his own impressions about the situation that is being described by the speaker and also about his (the speaker's) subjective attitude toward it. These impressions are continuously affecting ICMs in the hearer's mind and determining the appropriateness of every crucial word that is used by the speaker. But when the hearer is not familiar with the speaker or with the situation being described, then the hearer does not have well-formulated ICMs about the words being used. For example, in a context where a person is not familiar with the political situation at the southern border of the U.S. and with the current economic crisis in Central American nations, the use of *zakonno* (legally) in the following sentence would not be readily comprehensible.

Panama zakonno provozit narkotiki v SŠA.

Panama is legally trafficking drugs into the U.S.

Here the adverb references Panama's current trade policies which allow the selling of drugs in the U.S. in order to strengthen its currency and help its plunging economy.

It is the lack of sharing of an ICM of a word which sometimes forces the speaker to supplement his use of a particular word (in our case adverb) with an explanatory clause to fill in the listener's ICM. In the case discussed earlier of attitude and evaluative adverbs in complex sentences, we claimed that there arose a situational need for a clause which would explain the reason for the speaker's attitude toward the given event or his subjective evaluation of the action expressed in the adverb. In our example :

> Vy vvezli èti semena nezakonno, tak kak ix nado deklarirovat' na tamožne.
>
> You brought in these seeds illegally because one is supposed to declare them at customs.

We justified the use of the adverb *nezakonno* in the subordinate clause on the grounds that *semena* (seeds) in most of the nations would not be considered a typical object of illegal trafficking. In other words, the ICMs of *nezakonno* do not immediately bring to the hearer's mind *seeds* as a plausible object of trafficking. At the same time the ICMs of *seeds* do not readily associate them with any illegal actions. Therefore, when they are used as an object of illegal trafficking, there exists a gap between the ICMs in the speaker's mind and those in the hearer's. In such a context the speaker is forced to clarify his use of the adverb by supplying a reason subordinate clause.

Situational ICMs

As mentioned earlier in this chapter socio-cultural factors are not the only ones that contribute to the formation of ICMs in our minds. Impressions about some object/person/event can also be formed as a result of the more immediate situation to which a person is exposed for a certain period of time. These are usually of a transitory nature and are subject to change with a change in the situation. They force a person to build his own expectations about the surrounding events and also help him perceive the new event as normal/expected or abnormal/unexpected in these particular circumstances. We believe that presuppositions, expectations and preconceived ideas about situations are also ICMs and should be distinguished from the above-discussed socio-cultural ICMs.

Evidence will be provided later to show that the use of adverbs by a speaker, to a significant extent, is controlled by his knowledge about various events occuring around him i.e., by what we shall call situational ICMs.

One very important point concerning the nature of the information that underlies situational ICMs is that it is not suggested that situational ICMs are totally devoid of cultural factors and other long term pragmatic knowledge of the world. Since they refer to real world situations they do carry some amount of general knowledge about this world. However, what is suggested is that the salient information in situational ICMs playing decisive role in the use of the adverb pertains to the immediate situations to which the speaker is exposed.

The functioning of the new class of situational ICMs can be explained with the help of a hypothetical example.

A is a friend of B

A knows that B is very sick.

B is not supposed to walk.

A also knows that B cares about his health and under normal circumstances would not disregard doctor's orders.

A sees B getting out of the car and walking toward A's apartment.

The knowledge that A has about the whole situation tells him that B is too sick to visit him.

B's visit to A is perceived by A as something unexpected/ surprising/abnormal.

The contrast between his expectations about the situation and the actual occurence of the event leads to A's use of the adverb *surprisingly* in describing the situation. The adverb corresponds to the speaker's judgement about how he perceives the new event.

K moemu udivleniju, vosël B.

Surprisingly, B walked in.

Thus the adverb denotes that the event described contradicts his prior expectations about it. If, however in a slightly modified structure, B was known to be unconcerned about his own bodily health, we could say

Ne udivitel'no, vosël B.

Not surprisingly, B walked in.

In the above situation A has some preconceived ideas about what B can or cannot do. A has these ideas by virtue of his accquiantance with B and his knowledge about B as being very sick. The situational ICMs that A has about B do include some long term pragmatic knowledge; e.g., a very sick person is forbidden to perform his daily activities etc. But this knowledge remains recessive in the ICM. What is crucial for A's expectations about B is the current knowledge about B's physical condition and some temporary impressions about his activities.

Because adverbs have situational as well as cultural ICMs associated with them, the question of which of the two contributes most to adverbial modification at a particular instance depends on sentential and extrasentential contexts. Thus *k moemu udivleniju* in the above sentence operates on its situational ICM. But in the following sentence which is uttered by an East Indian with reference to the children of his American friend, cultural ICMs play a stronger role.

> K moemu udivleniju, deti v vosem' časov poslušno pošli spat'.
>
> Surprisingly, the children went to bed at eight without any grumbling.

The evaluation of the event of children going to bed at eight as something surprising is based on the cultural ICM in the East Indian speaker's mind for children and their bed time. In his culture no child would readily go to bed at eight.

Epistemic modal adverbs such as *očevidno* (evidently, obviously), *po-vidimomu* (apparently), etc. seem to operate exclusively on the basis of situational ICMs. The difference between these adverbs and others like *k moemu udivleniju* is that the epistemic modal adverbs refer inferentially or assertively to a single specific event while the others may access more broadly-based or cultural knowledge. Let us take the following utterence as an example.

Džon, očevidno, prixodil.

Evidently, John was here.

The modal adverb in the above sentence expresses the speaker's confidence in the proposition. However, the adverb can express this confidence only on the basis of the circumstantial evidence available to him at the moment of speech. Also, the event that serves as the evidence is part of a larger situation with which the speaker is familiar. A hypothetical candidate for this situational ICM for the above utterence would be the following :

Two friends left a parcel on the table to be picked up by John. When they got back from school they did not find the parcel on the table.

Its absence leads to the inference that John has picked it up.

The disappearance of the parcel is the outcome of a prior situation that involves three friends and some agreement between them about the parcel pick-up. The adverb *očevidno* (evidently), on the basis of the prior situational ICMs of all important words involved in the event (which in fact gives the ICM for the whole situation) links the specific incident of the absence of the parcel to the conclusive inference that John was there. Clearly, there is little here which could be attributed to socio-cultural ICMs.

Let us examine another utterance involving an epistemic modal adverb and its dependence on an underlying situational ICM. In the sentence

Po-vidimomu, Kate nravitsja rabotat' v N'ju Jorke.

Apparently, Katja is enjoying her job in New York.

the adverb refers to an event which helps the speaker conclude that Katja is enjoying her job. This event could be almost anything, depending on the prior situation. For example, the speaker may know that Katja hates New York, and was not too eager to take the job there. He/she may also know that she (Katja) had said, that she would probably quit the job in a couple of months and be back in town. On the background of this situational knowledge, the fact that Katja is not yet back in town and that more than two months have passed leads the speaker to speculate that she is enjoying the job. The adverb *po-vidimomu* (apparently) tacitly involves the knowledge of the whole prior situation and states that the surface main clause is only an inference based on this knowledge.

Other Examples

Looking at the earlier taxonomies of the adverbs of particular interest to us in this work, it is apparent that the appropriateness/inappropriateness of adverbs in context cannot be successfully explained by a framework using such classes as evaluative, epistemic modal, attitudinal and so on. The dichotomy of socio-cultural and situational ICMs offers a better device for addressing the issue of appropriateness. Within the limits of the present work it is obviously not possible to discuss all such adverbs and their associated ICMs. However, for the purpose of broadening the base of our claims, we shall list a few more adverbs and sketch their underlying conceptual structures (where applicable) together with the associated ICMs. It must be noted that conceptual structures indicate the prerequisite relation between prior events presumed in the lexical semantics of adverbs. Not all adverbs refer to such relations. Some of the examples cited below lack Schank's conceptual structure. Also, an adverb may have several meanings depending on the context in which it occurs. The conceptual structures and ICMs sketched in this section shall concern only that meaning of an adverb that is given in brackets. Rather than arranging the examples into the above mentioned traditional classes, it will be seen that they can be broken down into two major groups: those predominantly involving socio-cultural ICMs, and those mainly associated with situational ICMs. In the description of each adverb we shall only give the more important contextual requirements. The conceptual structures will be given in phrase form and not in schemes as employed by Schank. As mentioned earlier, the dichotomy of socio-cultural and situational ICMs shows considerable overlapping. As a result, some of the adverbs listed below involve both kinds of ICMs thus indicating the fuzzy boundaries of the two groups.

Adverbs and Cultural ICMs

1) Vežlivo/nevežlivo, grubo (politely/rudely)

The evaluation of any action as polite or rude is strongly affected by the cultural background of the person doing the evaluation. Suppose, for example, a person is describing a classroom scene in a foreign country where students are expected to stand up when the teacher walks into the room. If such a norm does not exist in the observer's society, he will probably say *"Vošël učitel'. Učeniki vežlivo vstali"* (The teacher walked in and the students politely stood up). However, if the observer shares the same culture with the students he would find nothing unusually polite in their behaviour and would be unlikely to use the adverb. But at the same time, if the students did not stand up, he might say *"Vošël učitel', no učeniki nevežlivo prodolžali sidet'"* (The teacher walked in but the students rudely remained seated).

2) Koketlivo (flirtingly)

The boundaries between modest behaviour and flirting are, to a great extent, determined culturally. For example, in societies where women are supposed to cover themselves with a veil and keep away from men other than very close family members, engaging oneself in conversation with a male stranger might be considered flirting and a violation of modesty. While in a more liberal society, on the other hand, only getting oneself invited on a date by a male acquaintance might be taken as flirting. Thus the adverb will be used differently across different cultures to refer to different kinds of behaviour. In the former society, "*Ona kcketlivo razgovarivaet s mužčinami* " would be appropriate. In the latter society it would not, unless there was an intent to be dated.

3) Smelo (bravely)

This adverb is anchored to the following conceptual structure : "An Act X involves some degree of danger. An actor A takes a calculated risk and performs X in the hope of some positive outcome." In our discussion of socio-cultural ICMs we mentioned that these ICMs are formed not only on the basis of one's cultural background, but also involve long term pragmatic knowledge about the world (cf. figure on page 189) For example, this kind of knowledge tells us that jumping into a flooding river in order to rescue a child is bravery but driving to work every day does not (under normal circumstances) involve any danger and therefore is not a brave act. However, whether or not a particular act involves danger is determined on the basis of a combination of socio-cultural as well as situational ICMs. Therefore, if the event of someone going to work temporarily involves the situational ICMs indicating some kind of danger (e.g., workers on strike and violence on the picket line etc.) then the act of that person going to work can serve as a referent of the adverb *bravely*.

4) Interesno (interestingly)

The underlying conceptual structure of *interesno* is: "A certain act/state X is either new, different, or was not expected". Needless to say, the adverb may involve socio-cultural as well as situational ICMs. The use of the adverb in the following hypothetical context is based on the socio-cultural ICMs. An East Indian's idea of classical dance necessarily includes bright clothes and a lot of jewellery. If this person goes to watch ballet he will probably say *"Balerina, interesno, ne nosila nikakix ukraščenii."* (Interestingly, the dancer wore absolutely no jewellery). But the same sentence will be starred for an American who knows that ballet dancers do not necessarily wear ornaments.

A possible situational ICM for the use of the same adverb in another case can be sketched as below : The speaker knows that Lena always wanted to move to Moscow. But when she actually got a job there, she refused it. This situational knowledge about Lena and her job might lead the speaker to use the adverb *interesno* as in the following sentence, "*Lena, interesno, ne prinjala robotu v Moskve* ".

5) Konečno (naturally)

Similar to the above adverb, *konečno* (naturally) too involves both socio-cultural as well as situational ICMs. Its conceptual structure would be : "An event X is an expected outcome/reaction to an earlier (relevant) situation. Or, an event X is a logical and predictable result of some earlier state/event."

What is a natural reaction to an event/state is determined both culturally and on the basis of the earlier larger context. Suppose a society in which marriage outside one's religion is strongly opposed (socio-cultural ICM), or a family where parents are known to object to their children's every act (situational ICM). On the background of this knowledge of a society/family, a girl's announcement of her mixed marriage will meet with predictable opposition from the parents and one could say; "*Roditeli konečno byli v krajnej jarosti i protivilis' svadbe dočeri.*" (Naturally, the parents were extremely furious and strongly opposed their daughter's wedding plans.)

6) Kak sleduet (aptly/appropriately)

This adverb has something like the following conceptual structure : "A situation/event/state X requires some (re)action R. Actor A performs R". What is an apt/appropriate (re)action at any particular time is a function of the personal outlook, the socio-cultural biases of the individual doing the evaluation, as well as his/her knowledge of the relevant situation. For example, when the Prime Minister spells out the possible benefits of free trade , its supporters would say *"Kak sleduet, Prim'er ministr podčerknul položitel'nuju storonu torgovogo dogovora."* (The Prime Minister aptly/appropriately highlighted the positive side of the trade agreement.) The opponents, on the other hand, might use some other adverb (such as *xitro* 'shrewdly'). The use of the adverb in the above context is based mainly on situational ICMs. In the following sentences Socio-cultural ICMs seem to play a major role in the use of the adverb. *Roditeli xoteli, čtoby syn stal vračom. A syn, kak sleduet, poslušalsja svoix roditelej.* Here the use of the adverb is based on the socio-cultural ICM which involves the expectation that children fulfill their parents' wish. However, in a less rigidly structured society where children enjoy more freedom in making decisions, the adverb in this context is less likely to be used.

The adverbs listed above operate either mainly on socio-cultural ICMs or involve both kinds. The examples listed below, however, rely heavily on situatuational ICMs and show very little cultural relevance.

Adverbs and situational ICMs

1) Postojanno (consistently)

The underlying conceptual structure of *postojanno* is: "A certain act or state X at the speech time ST is preceded by its regular, earlier occurences." E.g., *"Za poslednie tri goda gruppa Tomsona postojanno pečataet nepovtorjaemye rezultaty."* (For the last three years Thomson's group has been consistently publishing nonreproducible results.)

2) Postepenno (progressively)

The adverb operates on the following partial conceptual structure: "A certain action proceeds step by step for a certain period of time." The use of this adverb necessarily involves the situational knowledge of the occurence of the event during the whole specified duration. E.g., *"V 1988 godu procenty postepenno* *podnimalis'* " (In the year 1988 the interest rates progressively went up.)

3) Udobno, prigodno (conveniently)

The adverb has two distinct semantic shades. In one sense it operates on the following partial conceptual structure : "A certain actor A performed a certain act X solely out of some self interest." The example of this sense of the adverb will be *"Djadja obeščal platit' za pivo. No, kak ne udobno, zabyl prinesti den'gi."* (Uncle promised that the beer would be on him. But he conveniently forgot to bring the money.)

In the second sense the adverb has at its base this conceptual structure: "A certain act/state X is in the benefit of some individual(s)." *Bylo dvoe malen'kix detej, i rabotat' polnuju nedelju bylo trudno. No, izmenili u menja rabočie časy, čtoby bylo prigodno detjam."* (To work fulltime with two small children was hard. But the working hours were conveniently adjusted to suit the children.) It is evident that only the situational knowledge of the needs of an individual at a particular time can enable the speaker to use the adverb in this sense.

4) Naprasno (unnecessarily)

An act is performed unnecessarily when the desired goal is achieved by some other means; or when the cause for that act is absent. In order to use the adverb one requires the knowledge of 1) what the desired goal of an action was, 2) whether or not it was achieved, 3) how it was achieved, and lastly 4) whether there was a need to carry out that action. Thus the use of the adverb to modify an event depends on the situational ICMs that the spaker holds about various elements involved in that action. A possible candidate for the use of the adverb in the first sense will be the following utterence."*Mame nužny den'gi, podumal ja. Posël v Vestern Junion, i naprasno zaplatil vysokuju komissiju. A Mama uže vzjala u Saši.* (I thought Mom needed money. So I went to Western Union and unnecessarily paid an exorbitant commission. But Mom already got it from Sasha). The action of sending money through Western Union is evaluated as unnecessary only on the basis of the knowledge that Mom already borrowed from Sasha.

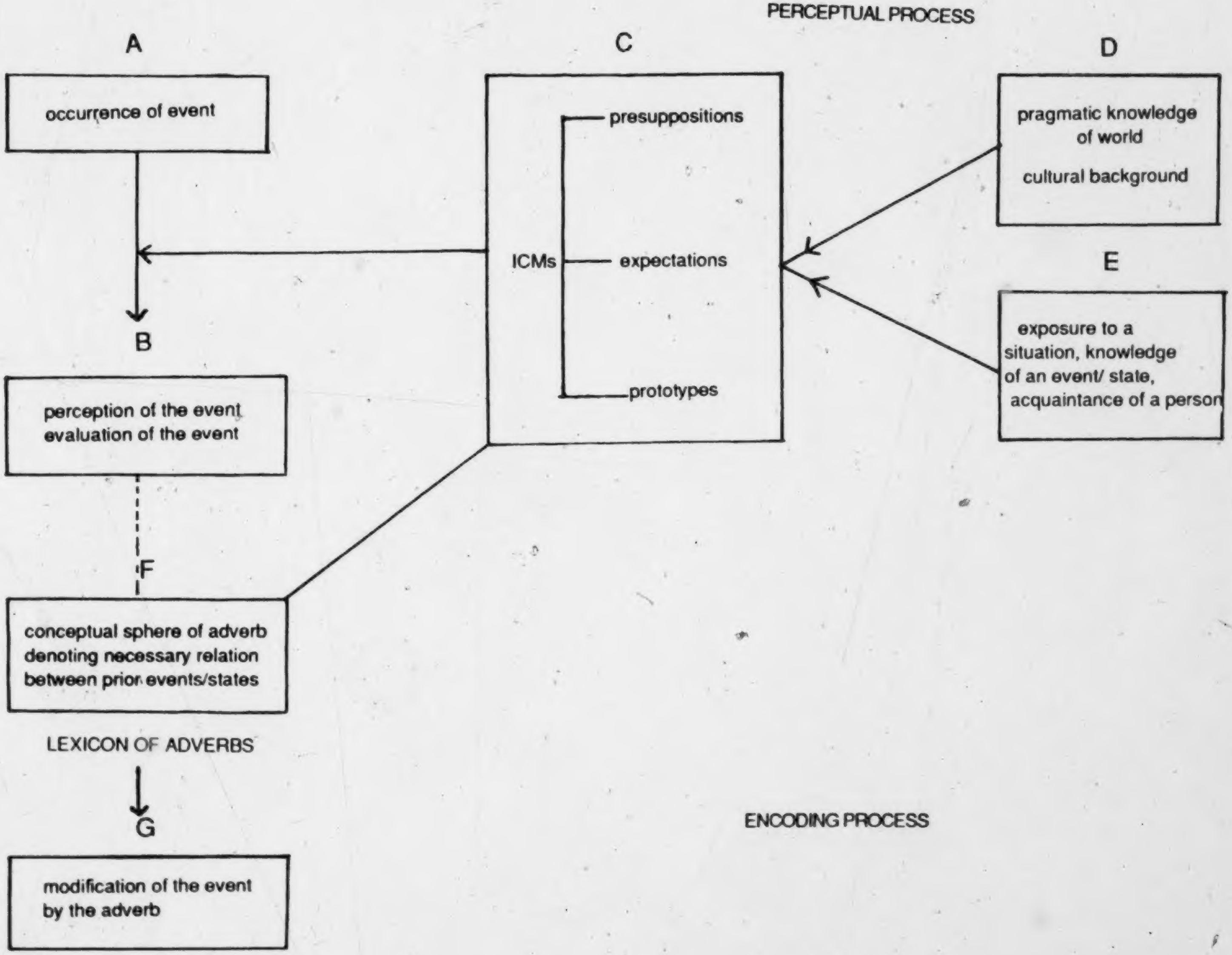
An example of the use of the adverb in the second sense will be "*Ja že skazala, byl tol'ko malenkij požar v kuxne. No ty naprasno ispugalsja i brosilsja domoj.*" (I told you it was only a small kitchen fire. But you unnecessarily panicked and rushed home.)

5) Bespečno (negligently)

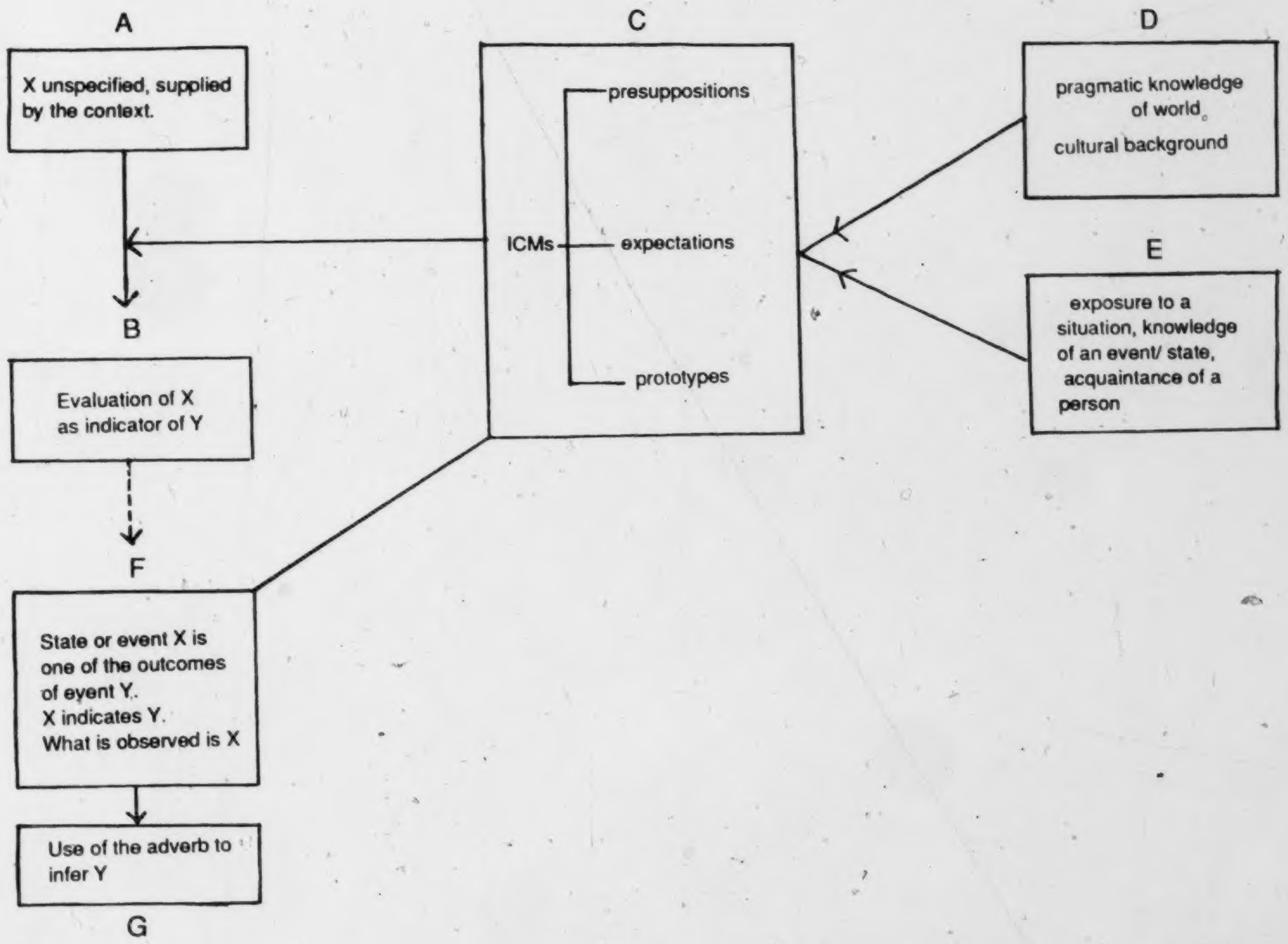
In order to use this adverb the speaker needs to be aware of the following conceptual structure underlying the adverb. "A certain situation S requires a certain action X to be performed and/or in a certain manner and/or within a certain time. The actor A either did not perform X, or not in the required manner, or violated the time constraint." When any action is evaluated as negligent the evaluation is based on the knowledge of the three possible constraints. E.g., *"Koška kak že na ulice? Nu čto ! Igor, bespečno kletku ostavil otkrytoj.* (How come the cat is out ? Well ! Igor negligently left the cage open.) But if the speaker knows that the cage opens by itself due to the defective lock and Igor does not bear the responsibility for the open cage, then, on the background of this situational knowledge, the use of the adverb is inappropriate and the sentence will be starred in the new context.

So far we discussed the anchoring of the semantics and use of adverbs to different kinds of pragmatic information. The question that naturally arises, however, is how does the use of ICMs fit into the general process of encoding and description of real world events. In what follows we shall try to schematically represent the whole process of the perception of an event, its evaluation by the speaker and modification of it by an adverb with an explicit representation of various kinds of knowledge that influence this process. First, we shall sketch the general outline of the process and then fill up the general diagram with concrete examples involving the adverbs *evidently* and *strangely.* To avoid repetition we shall use the two adverbs in new contexts which will be embedded in the sentences given at the top of the diagrams.

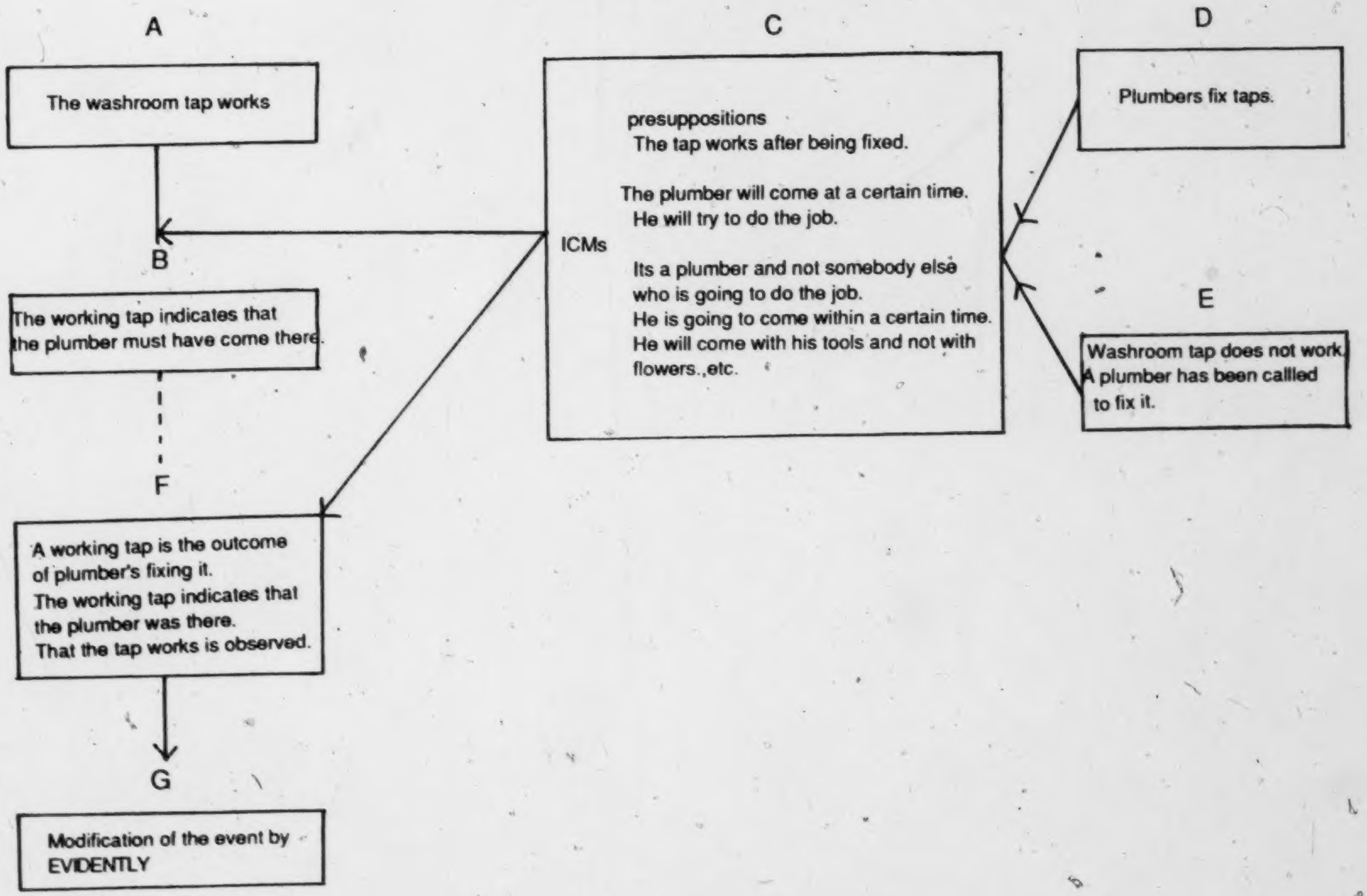
The diagrams represent two distinct processes : a) the perceptual process involving the knowledge of an event and its evaluation, and b) the encoding process which represents the use of the adverb to modify the event. The perceptual process begins with the actual occurence of the event (cell A), and its perception, which is almost immediately followed by its evaluation by the viewer/speaker (cell B). The evaluation process involves ICMs (cell C) which include presuppositions, expectations, and prototype effects associated with the adverb and with various elements involved in the event. The three distinct factors in ICMs, in turn, are the product of the viewer's/speaker's socio-cultural background and the related pragmatic knowldege (cell D), as well as his knowledge of more immediate events around him (cell E). If the evaluation of the event based on the associated ICMs coincides with the conceptual structure of an adverb (cell F), which spells the relation between prior events presumed in the lexical semantics of that adverb, then it can lead the speaker to modify the event by using that particular adverb.


PERCEPTUAL PROCESS
A
occurrence of event
C
ICMs
presuppositions
expectations
prototypes
D
pragmatic knowledge of world
cultural background
E
exposure to a situation, knowledge of an event/ state, acquaintance of a person
B
perception of the event evaluation of the event
F
conceptual sphere of adverb denoting necessary relation between prior events/states
LEXICON OF ADVERBS
G
modification of the event by the adverb
ENCODING PROCESS

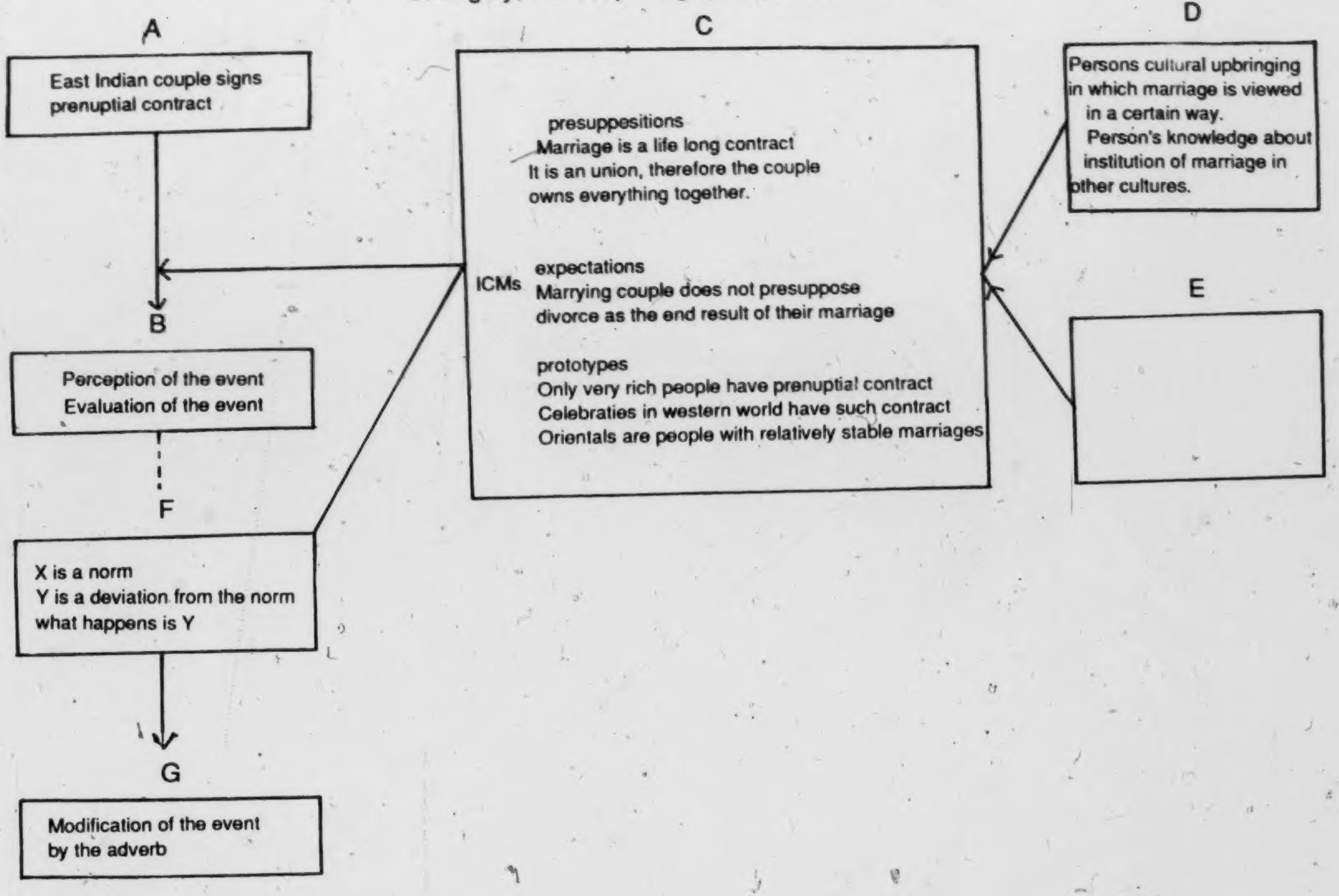
EVIDENTLY


A
X unspecified, supplied by the context.
B
Evaluation of X as indicator of Y
C
ICMs
presuppositions
expectations
prototypes
D
pragmatic knowledge of world.
cultural background
E
exposure to a situation, knowledge of an event/ state, acquaintance of a person
F
State or event X is one of the outcomes of event Y.
X indicates Y.
What is observed is X
G
Use of the adverb to infer Y

Evidently, the plumber was here.


A
The washroom tap works
B
The working tap indicates that
the plumber must have come there.
F
A working tap is the outcome
of plumber's fixing it.
The working tap indicates that
the plumber was there.
That the tap works is observed.
G
Modification of the event by
EVIDENTLY
C
presuppositions
The tap works after being fixed.
The plumber will come at a certain time.
He will try to do the job.
ICMs
Its a plumber and not somebody else
who is going to do the job.
He is going to come within a certain time.
He will come with his tools and not with
flowers.,etc.
D
Plumbers fix taps.
E
Washroom tap does not work.
A plumber has been callled
to fix it.

Strangely, the couple signed a prenuptial contract.


A
East Indian couple signs prenuptial contract
B
Perception of the event
Evaluation of the event
F
X is a norm
Y is a deviation from the norm
what happens is Y
G
Modification of the event by the adverb
C
ICMs
presuppositions
Marriage is a life long contract
It is an union, therefore the couple owns everything together.
expectations
Marrying couple does not presuppose divorce as the end result of their marriage
prototypes
Only very rich people have prenuptial contract
Celebraties in western world have such contract
Orientals are people with relatively stable marriages
D
Persons cultural upbringing in which marriage is viewed in a certain way.
Person's knowledge about institution of marriage in other cultures.
E

ICMs and Obligatory Predicative Adverbs

Structures containing epistemic modal adverbs operating on situational ICMs shed some light on the role of adverbs as deictic pointers at a prior situation. In the following discussion we shall try to apply situational ICMs to explain the semantic and pragmatic properties of certain sentence types where the presence of an adverb is considered, by some authors, to be crucial for the viability of the utterence.

It is sometimes claimed that in the following set of sentences the predicative adverbs are obligatory.

1) Ètu mašinu legko vodit'.
The car handles smoothly.
* Ètu masinu vodit'.

2) Kraska opryskivaetsja rovnym sloem.
The paint sprays evenly.
? Kraska opryskivaetsja.

3) Žurnal legko čitaetsja.
The magazine reads easily.
? Žurnal čitaetsja.

4) Dver' otkryvaetsja so skripom.

The door opens noisily.

? Dver' otkryvaetsja.

5) Okno ploxo zakryvaetsja.

The window closes badly.

? Okno zakryvaetsja.

The obligatory use of adverbs in such sentences is explained by C. Fellbaum (1985) on the grounds that without an adverb these sentences are self-evident. Everybody knows that cars are handled, paints are sprayed and magazines are read. Such properties are taken to be inherent and presumed to be always present in these objects. This explanation is possibly correct but incomplete. It throws no light on exactly why the adverb makes the statement newsworthy. It also incorrectly dismisses as ungrammatical all those instances where the sentences occur without the adverb. We believe that omissibility/obligatoriness of adverbs in agentless sentences can be explained with the help of ICMs, mainly situational ICMs. Let us examine more closely some of the questionable sentences from above.

Dver' otkryvaesja.

The door opens.

Kraska opryskivaetsja.

The paint sprays.

Okno zakryvaetsja.

The window closes.

The above structures will be considered perfectly acceptable and perceived as conveying new information in a situation where the participants of the conversation know that previously the door did not open, or the paint did not spray, or the window did not close. Whether or not a sentence without an adverb makes a useful contribution to the listener's knowledge depends on the prior conditions on whose background the current situation is to be perceived and interpreted. In other words, the knowledge of the prior situation in both the speaker's or hearer's mind decides what is new information and what is a known, presumed fact.

The appropriateness of the above structures, especially those refering to window and door, can also be shown to be *culturally* determined, although in a very restricted context. For a tribal man living away from modern civilization and for whom window/door only means an opening in the wall, a closing/opening window can be a novelty. On the background of his cultural knowledge of windows, the sentence "The window closes", is fully appropriate and communicates new information even without an adverb.

However, the sentences *Etu masinu vodit'* , *Žurnal čitaetsja.* (This car handles, The magazine reads), are not usually acceptable without an adverb because the ICMs of *mašina* and *žurnal* presume that they are to be driven or read in all cultures, and it becomes a kind of tautology to assert what is already assumed. There are very few situations where a car exists but does not handle and a magazine is written but is not read. (A car may handle badly and a magazine may be read with difficulty.) Thus what becomes crucial in these objects is not the actions related to them automatically via their normal ICMs, but the manner in which they are performed. This, in turn, hinges on the specifics of the situation, or situational ICMs as characterized earlier.

The omissibility/obligatoriness/appropriateness of adverbs in agentless active sentences is therefore decided mainly by the underlying situational ICMs of the object and the verb in question. The adverbs in such structures can be deleted only if the statement without it can express a proposition which provides new information to the hearer, based on variation in the situational or socio-cultural ICMs of the speaker or hearer, as exemplified above.

Summary

G. Lakoff's discourse-cognitive theory proposed the presence of presuppositions clustering around every lexical item. This set of preconceived ideas about words is termed an ICM and is shown to be responsible for the speaker's judgements about the grammaticality/appropriateness of the use of such items in a given context. The theory was employed here specifically to clarify some of the functional properties of adverbs in various kinds of sentences. It was proposed that adverbs, as members of a lexical category, exhibit clusters of underlying presuppositions, similar to those proposed for nouns, and that human discourse, under ordinary circumstances, has to operate within the constraints exerted by them.

Depending upon the kind of knowledge on which ICMs are built, we distinguished two types : socio-cultural and situational. The former are founded on presuppositions formed as a result of a person's socio-cultural background and long term knowledge about the world. The second type of ICM is built upon temporary knowledge of a particular situation or an individual. The distinction between the two is believed to be graded and therefore lacks fixed rigid boundaries, although it was found that epistemic modal adverbs rely almost exclusively on situational ICMs, while attitudinal adverbs are often associated with socio-cultural ICMs.

ICMs are shown to encompass associations between lexical categories within sentences. This results in an automatic combination in our minds of certain related concepts or objects and an equally automatic ruling out of other combinations. On the other hand, it was shown that when the ICM of an element is not shared by the participants of a conversation or if the use of a word deviates from its well assumed ICM, an obligatory justification follows in discourse. By employing the ICM theory in our analysis we could account for many peculiarities of adverbial semantics and function which otherwise remain unexplained in formal theories of grammar. We stated that syntactic well-formedness is not the only parameter for the acceptability of an utterence. The appropriateness in context plays an equally important role. Transformational grammars can explain the grammaticality of a structure only at the syntactic level. But a perfectly grammatical sentence exchanged between an ideal speaker and a hearer with native proficiency and sharing the same culture can be evaluated as acceptable by one and inappropriate or starred by the other if their personal views on the subject matter differ. We demonstrated that such cases can be successfully handled only by a cognitive account of the category which takes into consideration the personal biases of the participants in discourse.

The dividing line between acceptability and unacceptability of a sentence is very thin and subject to contextual constraints. This is evident from our examples involving predicative adverbs which were believed to be obligatory by semantic interepretive grammars for the syntactic wellformedness of the structure. Transformational generative grammars pay no attention to such constructions because the incorporation of discourse context is excluded from their theory. Semantic interpretive theory does attempt to account for the use of predicative adverbs in agentless active sentences. But it fails because it does not take enough context into consideration; namely the fact that the meaningfulness and appropriateness of any sentence is decided with respect to the situation that it refers to. As a result, it wrongly attributes the obligatory use of predicative adverbs to the subject-verb combination in the sentence. In our cognitive account of the category we illustrated that the status of adverbs in such sentences depends upon the situational/socio-cultural ICMs. If the sentence without an adverb asserts something different than is already understood via the ICMs about that situation, then it needs no adverb. If, however, it merely repeats the information already presumed in the ICMs, then an adverb needs to be inserted in order to express something new.

Since the cognitive account of adverbs operates on the experiential aspect of human perception it also seems to have priority over the logical analyses which basically take an objectivistic approach. Logical theories claim that if A sees P then P. In case of adverbs this implies that *if John saw Mila bravely jump into the river then Mila bravely jumped into the river.* But we have repeatedly stated that the evaluation of any act as brave is a subjective judgement on the part of the speaker and does not necessarily constitute an objective reality. Subjectivity is an important aspect of adverbial modification and must be addressed in any serious account of the category of adverbs.

Our extensions of Schank's belief structures and Lakoff's concept of ICMs vividly show that the pragmatic properties of adverbs are deeply rooted not merely in their lexical semantics but also in other factors associated with human experience. The environment in which a person lives, his relation to his socio-cultural surrounding, and his situational knowledge of current events together influence the use of adverbs. Although our analysis was based on Russian adverbs we presume that this interaction between the lexical/pragmatic function and the above variables is not language specific but applies to the adverbial usage in any language community. In other words, it pertains to human linguistic behaviour in general.

We are aware of the fact that the discourse-cognitive analysis of adverbs described in this work does not encompass all kinds of adverbs, or for that matter, all adverbs of the pertinent classes. This is especially true of Schank's belief structures. Not all manner or attitudinal adverbs can be assigned conceptual structures. For example, adverbs like *medlenno* (slowly), *bystro* (quickly), *sil'no* (hard) cannot be broken down into any primitive concepts since, in Schank's view, they modify physical aspects of ACTs. Also, semantically similar adverbs, as in Schank's theory, have similar (in fact the same) underlying conceptual structures. Therefore, *k moemu udivleniju* (surprisingly) and *k moemu izumleniju* (amazingly) must have the same underlying structure. However, these two adverbs differ in the intensity of emotion expressed. We admit that within the limits of this work we could not attempt to account for subtle shades of meaning in semantically similar adverbs. Also, it was not possible to schematize underlying structures of all adverbs that can possibly have one.

As compared to conceptual structures, ICMs seem to have a wider applicability. This is so because any adverb that expresses the speaker's subjective evaluation of or attitude toward an event/state can be shown to have associated ICMs. Even those adverbs that modfy some physical aspect of an ACT, and therefore lack conceptual structure in Schank's belief theory, can be shown to have associated ICMs. For example, even the evaluative manner adverbs *medlenno* (slowly), *bystro* (quickly) too are used only with respect to the speaker's preconceived notions of what is the normal, expected speed of an action or of its doer. This, however, by no means implies that ICMs can handle any and all kinds of adverbs. It is doubtful that ICMs could be used as a tool to deal with such adverbial classes as frequency, location, time, accompaniment and so on which mainly denote an objective reality that is independent of socio-cultural and experiential factors. But despite these reservations about conceptual structures and ICMs, we believe that theory of ICMs together with the notion of belief spheres can successfully shed light on many aspects of adverbial semantics and modification that have long remained unresolved. This discourse-cognitive treatment of the category reveals the large presuppositional sphere necessarily playing a decisive role in the use of adverbs in live discourse. No other formal grammar, including those employing selectional features aims at demonstrating such links between adverbial usage and human experience--the critical factor, we believe, in determining the appropriateness, obligatoriness, or optionality of adverbs in contexts.

VII. CONCLUSIONS

Linguistic communication is an anthropocentric activity. It is inevitable that various aspects of human life, physiology and mind, one way or other, affect every level of it. At the phonetic level, for example, human physiology impacts on the sound system of language via the principle of minimal effort: sounds that are difficult to articulate tend to be eliminated. In the morphological makeup of language, how a particular concept or object is going to be expressed depends on its relevance to the human society in which it is going to be used. But the relevance is determined culturally as well as cognitively. Thus those members of a category which are considered to be basic or conceptually simpler show the simplest morphological expression. The members at the basic (genus) level are taken to be most relevant to humans since they show highest degree of distinguishability. Also, the distribution of zero morpheme is found to be associated largely with the cognitively simplest concepts thus displaying an iconic relation between the two. There is a growing tendency to consider syntax as a functionally and psychologically motivated entity as opposed to the former tradition of regarding it as an independent, formal and autonomous level of organization in language. The study of child language has repeatedly hinted at a pragmatic and cognitive base underlying the development of syntax. A child's language is abundant with topic constructions rather than those with subjects. It is concatenated rather than embedded; the noun to verb ratio is one to one and so on. As the child grows the pragmatic mode of his language is overlaid by the syntactic mode. The development of pidgin and creole languages reflect the same transition from basically communicative structure to highly complex syntactization. Yet, fully developed adult language retains its psychological and cognitive underpinnings of syntax. For example, languages tend to be either left embedding or right embedding consistently. Central embedding is avoided since it is cognitively difficult to process and obstructs the flow of communication.

If the structure of language at each level is so closely associated with man's cognitive capacities and the pragmatic motives behind his linguistic communication, it is inevitable that the use of items at each level be also influenced by human activities. In linguistic communication, whether oral or written, the most practical unit pertains to the lexical level. Therefore, it can be shown to be under constant influence of the human mind and man's interaction with the social environment.

In the present work we attempted to demonstrate that the use of a restricted class of Russian adverbials is closely associated with the socio-cultural environment and the psychological makeup of human beings. The impetus for the pragmatic-cognitive study of Russian attitudinal and epistemic adverbials was provided by preliminary observations about their morphological peculiarities. It was noticed that unlike their English counterparts, many of Russian epistemic and attitudinal adverbs morphologically code the person expressing the attitude, e.g., *k moemu udivlenijy* , *k ego izumleniju* etc. The examination of their behaviour in natural discourse, on the other hand, brought to our notice the fact that in some contexts such as negation, rhetorical questions and so on, some of the adverbs need to be obligatorily paraphrased into active sentences, e.g., *ja ne udivljajus'*. In these paraphrases the person undergoing a particular emotion acts as the subject of the verb expressing that emotion. This peculiarity of Russian adverbs, in our view, highlights the extreme subjectivity in the usage of these adverbs. Our attempts to classify Russian attitudinal and epistemic adverbs on the basis of the degree of subjectivity in their semantics and also to show an iconic relation between their morphology and subjectivity failed, and therefore, had to be excluded from this work. However, we could successfully explain the pragmatic and cognitive factors giving rise to the subjectivity in adverbial usage.

Russian investigations of the adverbial system are characterized by an extremely conservative approach which lays heavy emphasis on the morphological and etymological peculiarities of the category. Transformational analyses of adverbs are rare; and there is practically no work in which adverbs are studied from the discourse-communicative point of view. The taxonomies of Russian adverbs from the fifties up to the seventies reflect a gradual refinement of the defining criteria resulting in a finer distinction between various semantic nuances. Among the works of the seventies one observes a start on the investigation of the modificatory function of adverbs; this results in distinguishing various syntactic referents of adverbial semantics. There is also an attempt to account for the varying modificatory scope of homophonous adverbs by showing their attachment to different syntactic nodes. Excluding two or three works in the seventies, the study of Russian adverbs is still dominated by the doctrine of the fifties--the period characterized by the use of "adverb" as a catch-all term for various disparate lexical items. The arrival of Vinogradov's work only replaced the term "adverb" with "modal" but continued to include diverse lexical items under one banner. The only change was that the heterogeneity among the members of one class was minimized. Russian grammars were always cognizant of the extreme subjectivity in the semantics of epistemic and attitude adverbs. Ironically however, this awareness of the speaker-dependent meaning and use of the two kinds of adverbs did not stimulate any expansion of their study into the realm of pragmatics.

In contrast to Russian, English works on adverbials display a steady progression toward discourse and pragmatic aspects of adverbial usage. The recognition of three distinct semantic factors of an action: the state of mind of the actor, actual nature of the action, and its result, helped considerably to reveal the various modificatory scopes of adverbials. It also made the boundaries between subclasses of adverbs clearer and explainable. The distinction between process-oriented and agent-oriented adverbs hinted at the fact that syntactic elements of a sentence are not the only possible referents of an adverbial. Seeing adverbial modification beyond the confines of a single sentence resulted in the realization that certain kinds of adverbs play a key role in textual patterning. They can point at the logical relation between adjacent sentences, which in turn means that they refer to previous or subsequent discourse. This referential function of adverbs in turn, served as an impetus to elucidate their conceptual spheres. However, these investigations of the pragmatics of adverbial semantics and their usage represent only a small segment of the overall study of adverbials. The majority of works on adverbs still handle the category from a formal or logical point of view. Most were developed for the English adverbial system and investigate the category in isolation from its actual use in live discourse.

The most striking fact about adverbs is their structural and syntactic resemblance to related adjectives. The two show similar cooccurence restrictions and can replace each other in many instances. This overlap between the two categories is used in transformational generative grammar to dispense with the adverbial category in base rules. Adverbs are treated only as surface structure category derivable from their adjectival counterparts. However, the transformationalists did not take into consideration the fact that not all adverbs have adjectival paraphrases. They also overlooked a functional peculiarity of adverbs: the modificatory reference of every adverb is oriented toward a particular element in a sentence. Depending on their orientation adverbs fall into various subclasses such as speaker-oriented, subject-oriented and so on. Structurally and semantically similar adverbs differing in their orientation require different underlying paraphrases. In not considering this aspect of adverbial modification transformational analyses suffer from extreme heterogeneity in the derivation of taxonomically similar adverbs. The problem of high degree of diversity of underlying paraphrases becomes more severe in Russian since many of the attitude and epistemic modal adverbs do not even share similar surface morphology.

The above mentioned inadequacies in the generative transformational account of adverbs are seen to be rectified within the generative semantic framework, since the latter is aware of the orientation factor in adverbial function. The nonavailability of adjectival counterparts for at least some adverbs is also given attention. As a result, generative semantics handles many of the complexities of English as well as Russian adverbials with more elegance.

The major drawback of generative and generative semantic analyses of adverbs resides in their handling of selectional restrictions on adverbs. By making use of features on adverbs and matching them with those on the verb one can select an appropriate adverb only within the restricted frame of one clause or a sentence. But since adverbs can be pointers of a relation between two adjacent sentences or textual segments one must also pay attention to their appropriateness with respect to the context in the whole discourse. Feature mechanisms, as they stand, cannot handle these multiply complex selectional restrictions. The issue becomes more complicated in the case of Russian adverbs, especially for temporal, degree, frequency and some manner adverbs which carry a heavy aspectual load. As a result, they can associate themselves only with aspectually compatible verbs. However, the final aspectual reading of a sentence is never a simple sum of the aspectualities of the verb and the adverb. Other factors such as singularity/plurality, definiteness of nouns, etc., also contribute to the aspectual reading of the sentence. In other words, these elements exert some selectional restrictions on the adverb. A grammar, therefore, must have a mechanism which would match the features on an adverb with those of every influencing element in the sentence. No formal grammar has so far dealt with such complexities in selectional features.

The disadvantages of studying adverbs divorced from their use in natural discourse are also observed in the logical analyses, which lay heavy emphasis on the correspondence between the scope of the adverb and its syntactic properties. By using first order logic semanticians could demonstrate that epistemic and attitudinal adverbs indicate a two place relation between the speaker and the proposition. This in turn, could account for the scope ambiguities of these adverbs. However, while doing so they had to put adverbs in extremely artificial contexts and also perform an equally artificial drill of replacing noun phrases in the sentence. Because the study of the category in its natural context and use was not part of such investigations, their observations about adverbial semantics and modification give us a fairly good understanding of fine differences in the scopes of two kinds of adverbs but no insight into why adverbs behave the way they do.

A major clue about the behaviour of adverbs was provided by the finding that epistemic and attitudinal adverbs have their own illocutionary force. This observation suggested the possibility that these adverbs may have a proverb which controls their behaviour in discourse. Therefore, the performative theory was employed to formally capture this force and the person to whom the attitude expressed by the adverb is attributed. In comparison to English, Russian seems to be more transparent with respect to the illocutionary force of an adverb and the speaker's role in expressing an attitude. Many Russian attitude adverbs morphologically code the person that undergoes the expressed emotion. Also, in many contexts, adverbs are obligatorily paraphrased into active sentences with the person undergoing the emotion as a subject and the active form of the verb expressing that emotion. Due to these morphological peculiarities of Russian adverbs the performative treatment proposed for English adverbs proves to be somewhat redundant for Russian data.

For a very long time in Russian as well as English grammars the most prevalent knowledge about adverbs pertained to their function as a modifier of some other element in the sentence. The realization of their various semantic and syntactic referents only gave a new dimension to this knowledge. The important observation that adverbs not only modify a verb but can also serve as a head and be modified themselves by some other clause was made only in the late seventies. The most probable modifiers of attitude and epistemic adverbs, as seen in the present work, are subordinate reason clauses in complex sentences. The fact that the use of an adverb is clarified in an explanatory clause implies that there is a prior reason behind every such use. But we illustrated that not every instance of adverbial usage needs to be substantiated by a reason clause. This in turn means that the reason for using an adverb must reside in some information which may or may not be shared by the addressee. The above two observations about adverbial usage lead us to explore exactly what controls the use of adverbs in live discourse. The following observations were made :

1) The lexical semantics of adverbs represent a complex relation between various events or states. This interaction resides in the semantics of an adverb in the form of its associated presuppositions.

2) In order for an adverb to be used appropriately the above mentioned relation must be established.

3) Whether or not such a relation is present in a context depends on the speaker's subjective knowledge and perception of a situation.

4) The perception and analysis of a situation by the participants in a discourse are heavily influenced by their socio-cultural backgrounds. In other words, the presuppositions that people hold about various elements in an adverb are a by-product of their exposure to certain social and cultural surroundings.

5) At least some presuppositions about adverbs are embodied; i.e., affected by the human psychological and physiological makeup. (The term *embodied* is borrowed from G. Lakoff.)

The relations that underlie some adverbs operate at the subconcious level without a person's direct awareness of it. They are labelled as belief structures. We employ them in our account of the appropriateness of some adverbs in context. It was illustrated that an adverb can be appropriately used if and only if its underlying presupposed relation between various events or states is established in context. This relation can be of a varied nature; i.e., causal, reciprocal and so on. If for some reason, the relation is distorted, the adverb is inappropriate since its conceptual requirements are not met and contextual restrictions are violated.

But belief structures only define the situational frame of adverbial meaning. In the case of adverbs like *mstitel'no* (vengefully), for example, they only lay out the following chain of prior events required by the adverb: A hurts B --> B wants to retaliate --> B hurts A with the intention of taking revenge. In case of others like *stranno* (strangely) the preexisting situational frame is: A presupposes the state or event B, but what takes place is not B. However, we made a point that these adverbs tacitly carry in their belief structures many more things than just the above situational frames. We illustrated that adverbs carry presuppositions and expectations about various associated elements. These expectations are found to change interculturally, thus affecting the use of an adverbs in different socio-cultural environments. In order to elucidate the role of socio-cultural factors working on adverbs we incorporated G. Lakoff's Idealized Cognitive Models which draw heavily on Elenor Rosch's investigations of prototype effects in category memberships. Lakoff theorizes that we organize our knowledge by means of ICMs, and that category structures and prototype effects are by-products of that organization. In other words, we define a category and its members only in terms of an idealized model related to the category. For example, the notion of "weekend" is understood in terms of the ICM that includes the knowledge of natural solar cycle, the standard of measuring the unit "day", the concept of week as another larger unit consisting of seven linearly sequenced days, etc. Thus ICMs contain background assumptions about the world. When an ICM on whose basis a category is defined fits the real world perfectly then the object referred to by means of that ICM qualifies as a prototypical member of that category.

We applied the concept of ICMs to the category of adverbs and claimed that just as any other lexical category, adverbs too display prototype effects. For a particular adverb some actions can function as more representative referents. Likewise, some objects can be prototypical patients of those actions while others are considered as less plausible ones. In other words, we take the position that adverbs show gradations in the plausibility and markedness of various elements with which they associate. For example, *vvezti nezakonno* (to traffic illegally) has gold and cocaine as its prototypical objects while flowers and seeds are thought of as less possible objects of illegal trafficking.

How does all this help us in revealing adverbial modification and usage in live discourse? We demonstrated that it gives us a cognitive device for distinguishing between the appropriate and inappropriate usages of an adverb. If various lexical elements in a sentence did not fit the ICMs of an adverb to some accepted degree then the adverbial statement is correspondingly less acceptable. Our example of associating *mstitel'no* (vengefully) with babies as a subject reflected this decisive role of ICMs in determining what is and what is not a normal context for an adverb.

But the presuppostions associated with an adverb are not exclusively objective. Rather, they are frequently formed as a result of man's interaction with his social surroundings and the physical world around him. Needless to say, they are subject to change interculturally. For words like *stranno* (strangely) the speaker's judgement of a situation as strange is motivated by his ICMs about that situation. Therefore, what is considered strange in one society may be viewed as normal and expected in some other.

Variability of ICMs across different socio-cultural groups was employed to account for the obligatory and optional clarification for the use of an adverb. We expressed the contention that if there is a gap between the speaker's ICMs of the situation modified by an adverb and those of the addressee's, then the latter has no clear picture of the referent situation of that adverb. In such a case the use of the adverb needs to be explained by providing a reason clause.

We also illustrated that socio-cultural factors are not the only components of ICMs. Human beings are constantly exposed to various situations. They are either directly or indirectly involved in different activities. This involvement leaves its impact on a person's thinking as well as speech. The accumulated knowledge in turn allows him to form some presuppositions about surrounding circumstances. Lakoff in his work on cognitive models refers to the socio-cultural and psychological factors influencing a person's ICMs about various nouns. However, we felt a need to distinguish between two kinds of experiential knowledge. The first is acquired by a person due to his socio-cultural background or general long term knowledge about the world. Such knowledge is a fairly constant facet of a person's life. The second kind of knowledge, on the other hand, is a result of person's awareness about transitory events or states which are everchanging. The ICMs structured on the first kind of knowledge are labelled as socio-cultural ICMs while those having circumstantial knowledge at their base are called situational ICMs. It is noted that the first kind of ICMs are closely associated with evaluative manner adverbs. Latter, on the other hand, form a basis mainly for the use and interpretation of epistemic modal adverbs. The attitudinal adverbs can rely on both kinds of ICMs.

The need for acknowledging situational ICMs as a separate class becomes evident when one examines a casual conversation where the participants make frequent references to prior situations. It is observed that the evaluation of an event by the speaker and the interpretation of an utterance by the addressee are made not only with respect to socio-cultural ICMs but also on the basis of their understanding of the situational background prior to the conversation. Due to the knowledge of this background they come to hold certain preconceived beliefs and expections about what is a plausible course of events at any given point in time. These expectations, in turn control their reaction to a new event and their use of adverbs, especially epistemic modal adverbs.

With the help of situational ICMs we could explain the obligatory use of adverbs in predicative roles. The necessity of using adverbs in certain structures, mainly agentless active sentences, such as *Kraska opryskivaetsja rovnym sloem* (the paint sprays evenly) was previously attributed to the inability of these structures to express on their own any viable new information. However, we illustrated that the status of any information in terms of its newness or givenness is not determined objectively. Rather, it is subjectively decided by the participants of a discourse; mainly against the background of the relevant circumstantial knowledge that they possess. In the above cited sentence the structure can provide viable information even when adverb is removed if there exists the prior situation in which the paint did not spray. It was explained that awareness of earlier circumstantial conditions arouses in the participants' minds various presuppositions and expectations about future events. The proposition embedded in a structure without an adverb is evaluated for its viability only by comparing it with the presuppositional spheres in the participants' minds. We argued that an adverb is judged as a sole carrier of new information mainly on the basis of the situational ICMs related to the proposition of the sentence.

In conclusion, we demonstrated that adverbs show conceptual and contextual requirements that must be fulfilled prior to their use. These requirements are the result of the intricate interplay between various events and resulting states underlying the lexical semantics of each adverb. The conceptual underpinnings of adverbs exert selectional restrictions on them. Also, they display prototype effects with respect to their associated semantic and syntactic elements. The prototype effect of an adverb is the product of the socio-cultural and situational ICMs within which it operates. Not surprisingly, there are gradations in the appropriateness of contexts in which an adverb can be used. Whether or not an event or a situation qualifies as the referent of an adverb depends on the socio-cultural background of the speaker and his knowledge about the world around him. Our position is that if one is to account for the behaviour, modificatory scopes and usage of an adverb in natural discourse one must obligatorily turn to the pragmatic and cognitive factors explicated in this work.

We admit that the discourse-cognitive analysis outlined in this work does not encompass all classes of adverbs, or for that matter, all members of the classes that are dealt with. The extension of our analysis to other adverbial classes will certainly shed further light on a few more important facets of adverbial semantics and modification. We are also aware of the fact that the conceptual underpinnings of adverbs represented in the form of conceptual structures do not make reference to the important factor of the intensity of the subjective feeling expressed in the adverb. As a result, in our analysis, two adverbs differing in the intensity (e.g., *k moemu udivleniju* and *k moemu izumleniju*) are wrongly treated as synonymous. In order to rectify this inadequacy the conceptual structures further need to be refined. It was impossible to undertake this task in the limited scope of the present work. However, we believe that our investigation of Russian adverbs has succeded in achieving its major goal; to show the anchoring of adverbial semantics and function to a vast amount of latent information which falls in the realm of pragmatics.

VIII. REFERENCES

Aksakov, K. S. (1975) . ***Polnoe sobranie sočinenij***. Moscow : Vysšaja Škola.

Bellert, Irena (1977) . "On semantic and distributional properties of sentential adverbs." ***Linguistic Inquiry***, 8, 2, Spring : 337-350.

Berlin Brent, and Kay, Paul (1969) . ***Basic Color terms: Their Universality and Evolution.*** Berkeley : Univ. of California press.

Bitextina, G. A. (1982) . "Semantiko-sintaksičeskie uslovija upotreblenija kačestvenno-količestvennyx narečii v russkom jazyke." ***Vestnik Moskovskogo Universiteta-Filologija***, Sept-Oct : 37-92.

Borowski, E. J. (1974) . "Adverbials in action sentences." ***Synthese***, 28, 3-4 , November : 483-512.

Bourke, M. K. (1976) . ***Aspect and Manner of Action in Russian***. Unpublished thesis, Brown University.

Bowers, John S. (1975) . "Adjectives and adverbs in English." ***Foundations of Language***, 13, 4 : 529-562.

Brozh, Ladjslav (1971) . ***Adverbial'naja Perefrastika.*** Praha: Universita Karlova.

Chafe, W. L. (1973) . "Language and memory." ***Language***, 49, 2 : 261-281.

(1984) . "How people use adverbial clauses." In ***Proceedings of the Tenth Annual Meeting, The Berkeley Linguistic Society***, Berkeley : 437-449.

Cheng, Chung-Ying (1972) . "Logic and grammar of adverbs." In ***University of Hawai Working Papers in Linguistics***, 4, 2 : 75-108.

Chomsky, Noam (1965) . ***Aspects of the Theory of Syntax.***. Cambridge: M.I.T. press.

(1970) . "Remarks on nominalization." In R. Jacobs and P. Rosenbaum, Eds. ***Readings in English transformational grammar*** : 148-221. Waltham: Ginn & Co.

Chvany, Catherine (1975) . ***On the Syntax of BE-sentences in Russian.*** Cambridge, Mass: Slavica.

Conners, Kathelene (1971) . "English adverb functions; their distributions and relations." ***Universite de Montreal Publication Internes*** , : 29-49.

Cooper, David E. (1977) . "Adverbial analysis." ***Lingua*** , 43, 1 : 65-75.

Corum, Claudia (1974) . "Adverbs : long and tangled roots." In ***Papers from Tenth Regional Meeting of Chicago Linguistic Society*** : 90-102.

Cresswell, M. J. (1974) . "Adverbs and events." ***Synthese*** , 28, 3-4, Nov : 455-481.

Crockett, Dina B. (1971) . "Modal words in Russian." ***International Journal of Slavic Linguistics and Poetics*** , 14 : 53-62.

Davidson, Alice (1970) . "Causal adverbs and performative verbs." ***Papers from the Sixth Regional Meeting of Chicago Linguistic Society*** : 190-201.

Davydov, A. I. (1854) . ***Opyt obščesravnitel'noj grammatiki russkogo jazyka*** . Sanktpeterburg : Imperatorskoj Akademii Nauk.

Dik, Simon (1978) . ***Functional grammar.*** Amsterdam : North Holland.

(1972-73) . "The semantic representation of manner adverbials." In ***Linguistics in the Netherlands*** : 96-121. Amsterdam : Van Gorcum.

Fellbaum, Christiane (1985) . "Adverbs in agentless actives and passives." In ***Papers from the Twenty First Regional Meeting of Chicago Linguistic Society*** , 21, 2 : 21-31.

Fillmore, Charles (1968) . "The case for case." In E. Bach and R. Harms, Eds. ***Universals in linguistic theory*** : 1-90. New York : Holt, Rinehart and Winston.

(1975) . "An alternative to checklist theories of meaning." In C. Cogen and H. Thompson, Eds. ***Papers of the First Meeting of the Berkeley Linguistic Society*** : 123-131.

(1982a) . "Toward a descriptive framework for spatial deixis." In P. R. Jarvella and W. Klein, Eds. ***Speech, Place and Action*** : 31-60. New York : John Wiley.

(1982b) . "Frame semantics." In Linguistic society of Korea, Eds. ***Linguistics in Morning Calm*** : 111-138. Seoul: Hanshin.

Greenbaum, Sidney (1969) . ***Studies in English Adverbial Usage.*** London : Longmans.

Harman, Gilbert (1972) . "Logical form." ***Foundations of Language,*** 1 : 38-65.

Hermeren, Lars (1978) . ***On modality in English*** . Gleerup : CWK.

Holden, K.T. and Vermette, Nancy (1980) . "Russian aspect and temporal adverbials." ***Russian Language Journal*** , 34 : 1-19.

Huang, Shaun-Fan (1975) . ***A Study of Adverbs*** . The Hague : Mouton.

Jackendoff, R. S. (1972) . ***Semantic Interpretation in Generative Grammar*** . Cambridge : M.I.T. Press.

Jacobs, Roderick, and Rosenbaum Peter (1968). ***English Transformational Grammar.*** Waltham : Ginn & Co.

Jesperson, O. (1924) . ***The philosophy of Grammar.*** London : Allen & Unwin.

Katz, Jerrold and Postal, Paul (1964) . ***An Integrated Theory of Lingusitic Description*** . Cambridge : M.I.T. Press.

Keyser, Samuel Jay (1968) . "Review of Sven Jacobson's Adverbial position in English." ***Language*** , 44 : 357-374.

Kotkova, Eva (1986) . ***Sentence Adverbials in a Functional Description.*** Amsterdam/Philadelphia : John Benjamins.

Lakoff, Geroge (1968) . "Instrumental adverbs and the concept of deep structure." ***Foundations of Language*** , 4 : 4-29.

(1973) . ***Adverbs and Modal Operators*** . Indiana Univ. Press

(1973) . ***Adverbs and Opacity : A Reply to Stalnaker.*** Indiana Univ. Press.

(1973) . "Hedges : a study in meaning criteria and the logic of fuzzy concepts." In ***Papers from the Eigth Regional Meeting of Chicago Linguistic Society*** : 183-228.

(1977) . "Linguistic gestalts." In ***Papers from the Thirteenth Regional Meeting of Chicago Linguistic Society*** : 236-287.

(1982) . ***Categories and Cognitive Models***. Berkeley : Univ. of California Press.

(1987) . ***Women, Fire and Dangerous Things*** . Chicago :

Univ. of Chicago Press.

Lakoff, G. & Johnson, Mark (1980) . ***Metaphors We Live By*** . Chicago : Univ. of Chicago Press.

Larson, Richard K. (1985) . "Bare NP adverbs." ***Linguistic Inquiry*** , 16, 4, Fall : 595-621.

Lyons, John (1966) . "Toward a notional theory of parts of speech." ***Journal of Linguistics***, : 209-236.

(1968) . ***Introduction to theoretical linguistics.*** New York : Cambridge Univ. Press.

(1971) . ***New horizons in linguistics*** . Worth : Harmonds.

(1977) . ***Semantics*** **.** New York : Cambridge Univ. Press.

Marino, M. (1973) . "A feature analysis of the modal system of English." ***Lingua*** , 32 : 300-323.

McCawley, James D. (1983) . "The syntax of some English adverbs." In ***Papers from the Ninteenth Regional Meeting of Chicago Linguistic Society*** : 263-282.

McConnel-Ginet, Sally (1982) . "Adverbs and logical forms-A linguistically realistic theory." ***Language*** **,** 58 : 144-184.

Ovsjaniko-Kulikovskii, D. N. (1912) . ***Sintaksis russkogo jazyka*** . Moscow : Gosudarstvennoe učebno-pedagogičeskoe izdatel'stvo.

Peskovskij, A. M. (1938) . ***Russkij sintaksis v naučnom osveščenii*** . Moscow : Gosudarstvennoe učebno-pedagogičeskoe izdatel'stvo.

Potebnja, A. A. (1941) . ***Iz zapisok po russkoj grammatike*** **.** Moscow : Gosudarstvennoe Učebno-Pedagogičeskoe Izdatel'stvo.

Power, Carol J. (1974) . ***Russian Adverbials*** . Unpublished thesis, Gerogetown University.

Richards, Barry (1976) . "Adverbs : from a logical point of view." ***Synthese*** , 32, 3-4, April : 329-372.

Rosch, Elenor (1975) . "Universals and cultural specifics in human categorization." In R. Brislin, Ed. ***Crosscultural perspectives on learning*** : 177-206. New York : Halstead press.

(1977) . "Human categorization." In N. Warren, Ed. ***Advances in crosscultural psychology***, 1 : 177-206. London : Academic press.

Ross, J. R. (1970) . "On declarative sentences." In R. Jacobs and P. Rosenbaum, Eds. ***Readings in English Transformational Grammar*** : 222-277. Waltham : Ginn & Co. :

Rutherford, William E. (1968) . ***Modern English.*** New York :

(1970). "Some observations concerning subordinate clauses in English." ***Language*** . 46, 1 : 97-115.

Sadock Jerrold M. (1969) . "Hypersentences." ***Papers in Linguistics*** , 1, July-Dec, 283-370.

Sanders, Gerald A. (1972) . "Adverbial constructions." In ***Stanford University Working Papers On Language Universals,*** 10 : 93-129.

Šaxmatov, A. A. (1941) . ***Sintaksis russkogo jazyka.*** Leningrad. Reprinted, The Hague : Mouton.

Schank, Roger C. (1974) . "Adverbs and beliefs." ***Lingua*** , 33, 1, Feb : 45-67.

(1972) . "Conceptual dependency--A theory of natural language understanding." ***Cognitive Psychology***, 3, 4 : 552-631.

Schreiber, Peter (1971) . "Some constraints on the formation of English sentence adverbs." ***Linguistic Inquiry*** , 2, 1 : 83-101.

(1972) . "Style disjuncts and the performative analysis." ***Linguistic Inquiry***, III, 33 : 321-347.

Stalnaker, R. C. (1970a) . "Notes on adverbs in response to Thomason and Lakoff". Unpublished paper.

Taylor, Grant (1956) . ***English Adverbials*** . Mimeo, Brown.

Thomason, R. H. (1970) . ***A Semantic Theory of Adverbs*** . Mimeo, Yale.

Thomason, R. H. and Stalnaker, R. C. (1973) . "A semantic theory of adverbs." ***Linguistic Inquiry*** , 4, 2 : 195-220.

(1968) . "Modality and reference." ***Nous*** , : 359-372.

Trnka, K (1973) . ***A Generative Description of Temporal Adverbs in Russian and Czech.*** Unpublished doctoral dissertation, Brown Univ.

Vendler, Zeno (1984) . "Adverbs of action." ***Papers from the Parasession on Lexical Semantics,*** Chicago Linguistic Society : 297-307.

Vinogradov, V. V. (1972) . ***Russkij jazyk*** . Moscow : Vysšaja Škola.

Vinogradov, V. V. and Istrina, E. S. and Barxudarov, S. G. (1960) . ***Grammatika russkogo jazyka*** . Moscow : Akademia Nauk U.S.S.R.

Vitek, A. J. (1967) . ***Function of Russian Adverbs.*** Unpublished doctoral dissertation, Univ. of Michigan.

Vostokov, A. K. (1851), ***Russkaja grammarika*** . Moskva : Vysšaja Škola.

Yokoyama, Olga (1986) . ***Discourse and Word Order.*** Amsterdam/Philadelphia : John Benjamins.

VIII. APPENDIX

As mentioned in the introduction, one of the initial objectives of the present work was to study the correspondence between the morphology of some Russian adverbials and the degree of subjectivity of their semantics. This interest in morphology was triggered by the observation that some attitudinal adverbs embed the person undergoing the emotion expressed in that adverb, e.g., *k moemu udivleniju* (surprisingly), *k ego sčast'ju* (fortunately for him) etc. The study was restricted to the epistemic modal and attitudinal adverbs listed on page

These adverbials were expected to separate out into two or three classes with varying degrees of subjectivity along the following lines : adverbs morphologically embedding the person expressing the emotion were believed to show the highest degree of subjectivity; next on the heirarchy were believed to be those adverbs that can additionally take a dative referring to the person that does the evaluation of the event; and thirdly, those adverbs that do not allow any dative insertion or kazat'sja paraphrases thereby expressing the evaluation of the event as more or less an objective description. The independent assessment of subjectivity was based on a battery of tests involving various syntactic frames. The tests were 1) *èto* paraphrase, 2) verb paraphrase, 3) past tense with *byt'*, 4) *kazat'sja* paraphrase, 5) dative insertion, 6) *li* -question, 7) contradiction.

The first (*èto* paraphrase) and third (past tense with *byt'*) tests were devised to indicate a factive status of the semantics of adverbs, which in turn was believed to indicate an objective evaluation, rather than completely subjective description of the event. Verb paraphrase, dative insertion and *kazat'sja* paraphrases, on the other hand, would denote highly subjective evaluation of an event on the speaker's part. The *li* insertion and contradiction tests are again devised to indicate the extent of subjectivity/objectivity in the use of an adverb. Some adverbs would directly take the question or negative particle, indicating a low degree of subjectivity. Others, in contrast, would need a verbal paraphrase presuming a higher degree of subjectivity.

We had hoped to get a fairly uniform and distinct lumping of adverbials into 2-3 classes with corresponding stages of subjectivity. Thus, for example, all adverbs that have dative in their surface morphology should have behaved more or less identically for the tests, thereby forming a distinct class. The adverbs that have a typically adverbial -o ending in their surface morphology, on the other hand, would have given another distinct class. The third class would have been of those adverbs that have a verbal phrase in their surface morphology. However, as is apparent from the table, adverbs failed to show any iconic relation between their surface morphology and the degree of subjectivity in their semantics and did not precipitate into any clearcut classes with respect to the tests. The results of the tests are tabulated on page 237-238. But first, let us list our data and exemplify with two adverb how each test worked.

The data

1)	jasno	clearly
2)	očevidno	evidently
3)	vidno	obviously
4)	verno	probably
5)	naverno	probably
6)	verojatno	possibly

7)	konečno	certainly
8)	nesomnenno	undoubtedly
9)	vidimo	apparently
10)	ponjatno	understandably
11)	interesno	interstingly
12)	paradoksal'no	paradoxically
13	stranno	strangely
14)	net somnenija	undoubtedly
15)	bez vsjakogo somnenija	undoubtedly
16)	po vsjakoj verojatnosti	most probably
17)	po ironii sud'by	ironically
18)	po-vidimomu	apparently
19)	k moemu udivleniju	surprisingly
20)	k moemu izumleniju	amazingly
21)	k vseobščemu vosxiščeniju	to everybody's delight
22)	k sožaleniju	unfortunately
23)	k sčast'ju	fortunately
24)	k nesčast'ju	unfortunately

Having listed the corpus, let us now illustrate with the adverbs *jasno* and *po-vidimomu* how the seven tests work.

Test 1- Èto paraphrase :

On, jasno, nedovolen. (Clearly, he is not happy)

Èto jasno, on ne dovolen.

On, po-vidimomu, nedovolen. (apparently, he is not happy)

* Eto po-vidimomu, on nedovolen.

Test 2- Verb paraphrase :

* jasno-not applicable

* po-vidimomu-not applicable

Test 3- Past tense with byt' :

On, bylo jasno, ne dovolen.

* On, bylo po-vidimomu, ne dovolen.

Test 4-Paraphrase with kazat'sja :

* Kažetsja jasnym, čto on ne dovolen.

Po-vidimomu kažetsja, čto on nedovolen.

Test 5-Dative pronoun insertion :

Mne jasno, čto on nedovolen.

* Mne po-vidimomu, čto on ne dovolen.

Test 6-li particle insertion :

Jasno li, on nedovolen ?

* Po-vidimomu li, on nedovolen ?

Test 7-Contradiction :

? On, jasno, nedovolen.-Mne ne jasno.

* On, po-vidimomu, nedovolen.-Ne po-vidimomu, on nedovolen.

The results of the tests

Adverb	Tests						
	1	2	3	4	5	6	7
očevidno	+	-	+	-	?	?	+
vidno	+	-	+	-	+	+	+
verno	+	-	-	?	-	+	-
naverno	-	-	-	-	-	-	-
verojatno	?	-	-	?	-	-	-
konečno	-	-	-	-	-	-	-
nesomnenno	+	+	+	+	-	-	-
vidimo	+	-	+	-	-	?	+
ponjatno	+	?	+	-	+	+	?
interesno	+	-	+	+	+	-	+
Paradoksal'no	+	-	?	+	-	+	+
stranno	+	-	+	+	?	?	+
net somnenija	-	+	+	-	-	-	-

Adverb	1	2	3	4	5	6	7
bez vsjakogo somnenija	-	+	-	+	-	-	-
po vsjakoj verojatnosti	-	-	-	+	-	-	-
kak ne stranno	?	-	?	?	-	-	-
k moemu udivleniju	-	+	-	+	-	-	+
k moemu izumleniju	-	+	-	+	-	-	+
k sožaleniju	-	?	-	-	-	-	?
k vceobščemu vosxiščeniju	-	+	-	-	-	-	?
k sčast'ju	-	?	+	?	-	?	-
k nesčast'ju	-	?	+	?	-	-	-
po-vidimomu	+	-	-	+	-	-	-
po uronii sud'by	-	?	+	+	_	?	-

It is apparent from the above table that no expected classes of adverbs with noticable correspondence between surface morphology and degree of subjectivity could be inferred from the tests.